

OMRON

Model ZUV-C30H

UV-LED Irradiator Controller

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:

Importer in EU:
Omron Europe B.V.
Wegalaan 67-69
2132 JD Hoofddorp,
The Netherlands

Manufacturer:
Omron Corporation,
Shiokoji Horikawa, Shimogyo-ku,
Kyoto 600-8530 JAPAN

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.



Dispose in accordance with applicable regulations.
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PRECAUTIONS FOR CORRECT USE

- Do not install the product in locations subjected to the following
 - Ambient temperature outside the rating
 - Rapid temperature fluctuations (causing condensation)
 - Relative humidity outside the range of 30 to 85%
 - Presence of corrosive or flammable gases
 - Presence of dust, salt, or iron particles
 - Direct vibration or shock
 - Reflection of intense light (such as other UV lights, laser beams, or electric arc-welding machines)
 - Direct sunlight or near heaters
 - Water, oil, or chemical fumes or spray, or mist environment
 - Strong magnetic or electric field

- Power Supply and Wiring
 - When using a controller, make sure that the FG terminal on the main unit is grounded.
 - When using a DC power supply, make sure that the power source is grounded.
 - When using a DC power supply, observe the following points:
 - When using a commercially available switching regulator, make sure that the FG terminal is grounded.
 - If surge currents are present in the power lines, connect surge absorbers that suit the operating environment.
 - Before turning ON the power after the product is connected, make sure that the power supply voltage is correct, there are no incorrect connections (e.g. load short-circuit) and the load current is appropriate.
 - A third party product is used for the AC adapter (LTE90E-SW-306 by Li Tone Electronics Co.,LTD).
 - The attached cable for the AC adapter can only be used in Japan. It cannot be used in other countries.
 - When using the AC adapter, connect the power plug into the controller before inserting the power cord into an outlet.
 - When removing the AC adapter, unplug the power cord from the outlet before removing the power plug from the controller.
 - Before connecting/disconnecting the head, make sure that the controller is turned OFF.
 - Use only combinations of the head and controller, extension cable specified in this manual.
 - The exclusive extension cable can be used between head and controller. However, do not use multiple extension cables for conjunction use.

- Cleaning
 - Do not use paint thinner, benzene, acetone, or kerosene for cleaning since these solutions dissolve the product surface.
 - Use commercially available alcohol.
 - To remove dirt or dust particles from the lens, wipe gently with a soft cloth (for cleaning lenses) moistened with a small amount of alcohol.

- About Resin Hardening
 - The hardening state of resin varies depending on various factors. Check the hardening state of resin on an ongoing basis and set the optimum conditions.

- Replacing the Head
 - When replacing the head, be sure to initialize the target channel on the controller. If the target channel is not initialized, the information (cumulative irradiation energy, power tuning data) of the head before replacement may still remain and prevent normal functioning of the head.

- Connecting the Head
 - When removing and re-connecting the head, be sure to connect to the same channel. If the head is connected to a different channel, information (cumulative irradiation energy, power tuning data) specific to the head is not inherited, preventing the head from functioning normally.

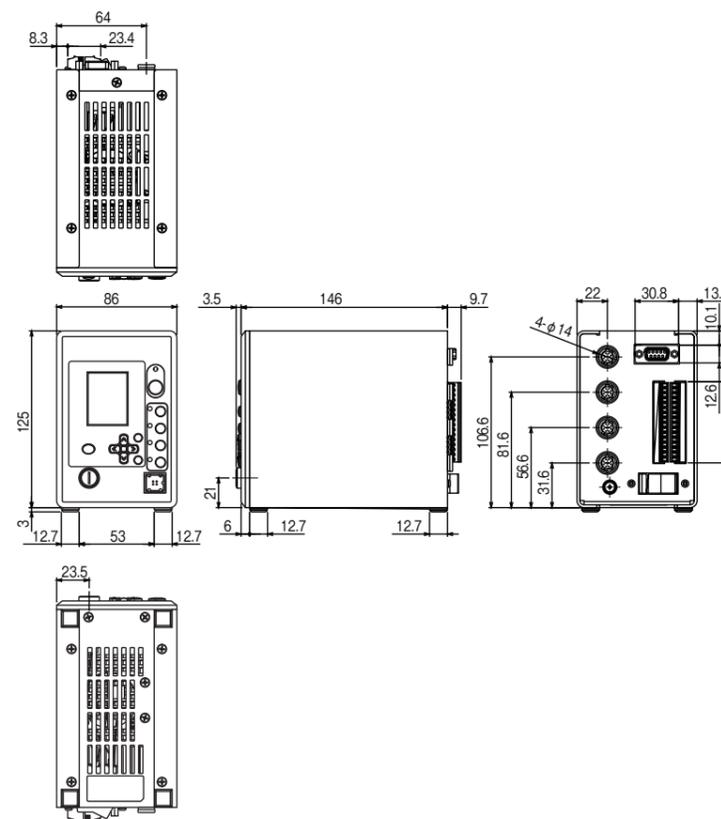
- LED safety measures
 - If a mirror-surface object stands in the light path, install a light shielding cover to the object. When using the product without termination, avoid to set the light at the eye level.
 - Although the safety distance, Nominal Ocular Hazard Distance (NOHD) is 1 m, terminate the light path where possible. Termination material with less reflective and lusterless painted surface is the best choice.
 - When not using the product, turn OFF the product key and remove it.
 - When installing or adjusting the head part, wear protection glasses.

- Combinations of the head and controller, extension cable
 - When using, connect with the following combinations. If different combinations, the head connection will not be recognized and can not irradiate UV light.

Controller : ZUV-C30H
Head Unit : ZUV-H□□
Extension Cable : ZUV-XC□□

If "POW" and "TIME" of the target CH are displayed as "---" on the CH SET screen, the head is not recognized for connection. Check if the connection head type is ZUV-H series.

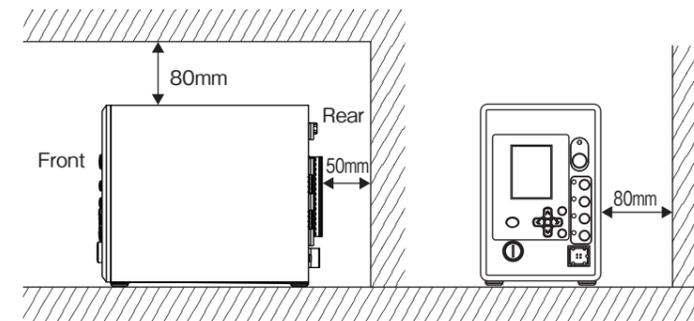
Dimensions



(UNIT : mm)

Installing the controller

For heat dissipation, leave more space than the dimensions shown below.



PRECAUTIONS FOR SAFE USE

- Do not use the product in environments where it can be exposed to inflammable/explosive gas.
- To ensure safety of operation and maintenance, do not install the product close to high-voltage devices and power devices.
- When using an AC power supply, use the AC adaptor (supplied with the product, 100 to 240 VAC ±10%).
- When using a DC power supply, the supply voltage must be within the rated range (24VDC ±10%). In addition, reverse connection of the power supply is not allowed. Recommended power source: S8VS-18024 (24 VDC 7.5A) by OMRON
- Open-collector outputs should not be short-circuited.
- Use the power supply within the rated load.
- 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.
- Should you notice any abnormalities such as smoke, abnormal heat of the product surface, and/or any foul odor, immediately stop use, turn OFF the power supply, and disconnect the power plug from the outlet. Contact your OMRON representative for repair of the product. Repairing it by yourself may cause danger.
- Do not attempt to dismantle, repair, or modify the product. Doing so may cause the product to not operate correctly as well as cause a malfunction resulting in a fire or an electric shock.
- Dispose of this product as industrial waste.
- Do not drop the product.
 - If the product is dropped or damaged, turn OFF the power supply, disconnect the powerplug from the outlet, and contact your OMRON representative. Using it continuously without repair may cause a fire.
- Do not insert any foreign objects into the product through the ventilation hole or any other opening. Doing so may cause a fire or electric shock.
- Do not install multiple controllers close to others, or do not pile them up. Doing so may cause a fire or breakdown of the product.
- Applicable standards
 - EN61326-1
 - Electromagnetic environment : Industrial electromagnetic environment (EN/IEC 61326-1 Table 2)

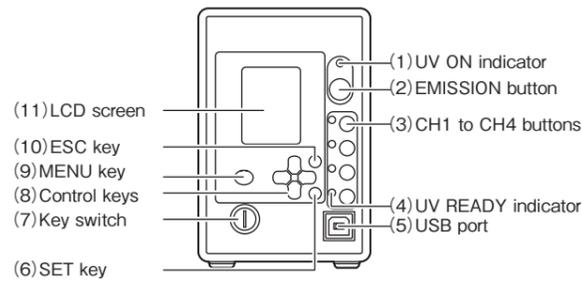
Ratings / Characteristics

Model		ZUV-C30H
Irradiation method	Constant irradiation	Irradiation power (0 to 100%), irradiation time (max. 999.9 seconds/unlimited)
	Pattern irradiation	Can be set to step or ramp (linear) (16 points specified per setting)
Number of settings		16 banks
Terminal block I/O	Inputs	Emergency stop, Start/stop UV irradiation (4 channels), Select settings (banks)
	Outputs	Ready (4 channels), UV irradiating, errors
RS-232C and USB	Inputs	Start/stop UV irradiation (4 channels), select settings (banks),
	Outputs	get/change setting data, save/read data, execute power tuning, get cumulative irradiation energy
Cooling method		Natural air cooling
Applicable Head Unit		ZUV-H□□
Applicable Extension Cable		ZUV-XC□□
Power supply voltage		Select AC or DC power supply. ·AC power supply : 100 to 240 VAC±10%, 50/60 Hz (AC adapter supplied) ·DC power supply : 24 VDC±10% (supplied from the terminal block on rear of unit)
Current consumption		·With AC adapter : 1.5A (36 VA) ·With DC power supply : 1.5A (36 VA)
Vibration resistance		10 to 150Hz: acceleration: 50m/s ² single amplitude: 0.35mm each of the X, Y and Z directions for 8 minutes. 10 times
Drop impact resistance		150m/s ² each in 6 directions (up/down, left/right, forward/backward), for 3
Ambient temperature range		Operating: 5 to 35 °C, Storage: -10 to 60 °C(with no icing or condensation)
Ambient humidity range		Operating and storage: 30% to 85% (with no condensation)
Degree of protection		IEC60529 IP20
Material		SECC, aluminum
Weight (packed state)		Approx. 2600g(main unit : Approx. 1800g)
Accessories		Instruction Sheet, key, AC adapter

Note. AC cable is only accommodated in Japanese standards.
In the case that you use ZUV-C30H in other than Japan, please connect DC power supply to terminal on backside.

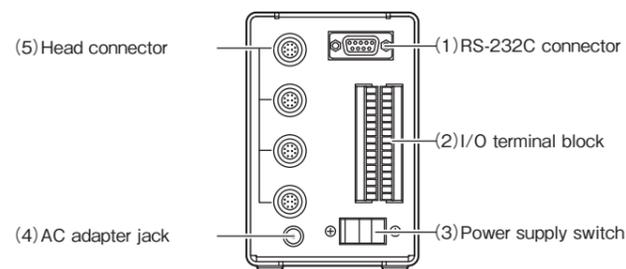
Parts Names and Functions

Front



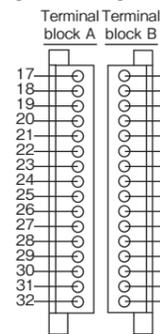
Name	Function	
	LOCK Mode	READY Mode
(1) UV ON indicator	Goes out.	Lights during UV irradiation.
(2) EMISSION button	—	Pressing this button starts/stops UV light irradiation from the irradiation standby head.
(3) CH1 to CH4 buttons	—	The head corresponding to the pressed button starts/stops UV light irradiation.
(4) UV READY indicator	Goes out.	Lights in the irradiation standby mode when the key switch is turned to the "READY" position. Note that the indicator goes out during UV irradiation. The channel corresponding to the connected head lights.
(5) USB port	Connect the USB cable to the USB port to connect to a personal computer.	
(6) SET key	Selects and applies items when they are being set.	—
(7) Key switch	Operating this key switches between the LOCK and READY modes. LOCK mode : irradiation conditions can be set in this mode. irradiation is disabled. READY mode: irradiation is enabled in this mode.	
(8) Control keys	Move the cursor and change numeric values.	The ← → L/R keys change the display screen during operation. The ↑ ↓ UP/DOWN keys change the display channel.
(9) MENU key	Saves settings.	—
(10) ESC key	Cancels the setting, and returns to the one previous menu.	—
(11) LCD screen	Displays a display screen or setting menu during operation.	

Rear



Name	Function
(1) RS-232C connector	Connects to the personal computer or programmable controller via the serial cable to control input from external devices.
(2) I/O terminal block	Connects external devices such as the foot switch.
(3) Power supply switch	Switches the main power supply ON/OFF. The ON/OFF direction differs between the AC power supply and the DC power supply. Check the ON/OFF direction printed on the main unit.
(4) AC adapter jack	Connects to the AC power supply.
(5) Head connector	Connects to the head.

Input/output Terminal Arrangement



Pay attention to the following points regarding the electric wire used for the terminal block:

The size of the recommended cross section is as follows:
 Numbers 16, 31, and 32: 1.00 to 1.50 mm²
 Other than the above: 0.10 to 1.50 mm²

The stripped cable length is approximately 7 mm.
 Wire length: 30 m and less

Terminal block A

No	Indication	I/O	Signal Name
17	RDY1	Output	Ready output CH1
18	RDY2	Output	Ready output CH2
19	RDY3	Output	Ready output CH3
20	RDY4	Output	Ready output CH4
21	TRGOUT1	Output	Unused
22	TRGOUT2	Output	Unused
23	TRGOUT3	Output	Unused
24	TRGOUT4	Output	Unused
25	UVON	Output	Output during UV irradiation
26	ERROR	Output	Error output
27	COMOUT	—	Output COM
28	NC	—	No connection
29	NC	—	No connection
30	NC	—	No connection
31	+24V	—	+24V power supply input
32	GND	—	24V input GND

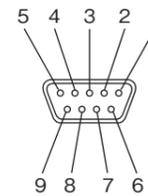
Terminal block B

No	Indication	I/O	Signal Name
1	AIN1	Input	0 to 5V analog input 1
2	AIN2	Input	Unused
3	AIN3	Input	Unused
4	AIN4	Input	Unused
5	AG	—	Analog input GND
6	TRG1	Input	UV irradiation start/end input CH1
7	TRG2	Input	UV irradiation start/end input CH2
8	TRG3	Input	UV irradiation start/end input CH3
9	TRG4	Input	UV irradiation start/end input CH4
10	BANK0	Input	Bank switching input 0
11	BANK1	Input	Bank switching input 1
12	BANK2	Input	Bank switching input 2
13	BANK3	Input	Bank switching input 3
14	EMGCY	Input	Input of emergency stop
15	COMIN	—	0V (input COM)
16	FG	—	Frame GND

RS-232C pin assignments

The D-SUB9 female pin is used for the RS-232C connector.
 Prepare a compatible connector.

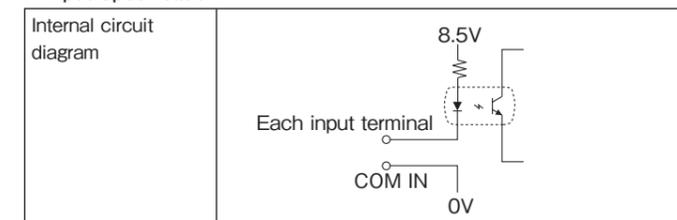
Recommended part : XM3A-0921 (plug)
 XM2S-0911 (hood)



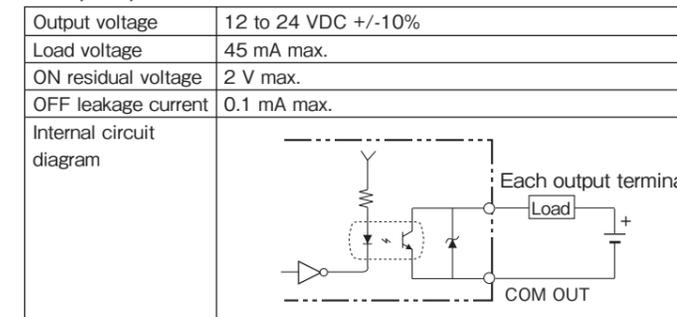
Pin No.	Signal Name	Description
1	FG(GND)	Protective ground
2	SD(TXD)	Send data
3	RD(RXD)	Receive data
4	NC	Not connected
5	NC	Not connected
6	NC	Not connected
7	NC	Not connected
8	NC	Not connected
9	SG(GND)	Signal ground

Internal Specification

<Input Specification>



<Output Specification>



Output voltage	12 to 24 VDC +/-10%
Load voltage	45 mA max.
ON residual voltage	2 V max.
OFF leakage current	0.1 mA max.

Regarding the detailed functions and operations, refer to the User's Manual.(It can be downloaded from HP.)
 A USB driver can be downloaded from following URL.



<http://www.fa.omron.co.jp/usb-d-e>

<http://www.fa.omron.co.jp/products/family/1876/download/manual.html>

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.

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