

Panasonic
ideas for life

UV CURING SYSTEM
AICURE UJ30/35



Most important features

Panasonic LED UV systems are very compact, have lower energy consumption than lamp systems and advanced features compared to other LED UV systems. Moreover, LED technology reduces the thermal impact on components.

The Aicure is equipped with a temperature feedback controller originally developed by Panasonic. Its UV irradiation meets the industry's highest class of stability.

In addition to its user-friendliness, energy efficiency and being environmentally friendly, these models have a high irradiation intensity power up to 10,100mW/cm² (wavelength: 365nm) or 12,800mW/cm² (wavelength: 385nm) and high irradiation accuracy of $\pm 3\%$.

The new models are characterized by superior performance, long life and user-friendliness within the realm of UV curing.

Temperature feedback for stable irradiation

New slim UV sensor for intensity calibration



User-friendly interface

Two new controller selections

Standard model

UJ30

Limited to the most necessary and common functions. Provides highly reliable UV irradiation.



High performance model

UJ35

A variety of functions provide more advanced UV irradiation solutions.



User-friendly

Easy-to-read display and easy-to-operate panel are as simple to use as a home appliance.

Stable irradiation

The temperature feedback control provides excellent irradiation stability.



Four-head irradiation

Different irradiation power and time can be set for each LED head attached to the controller. Both "all" and "individual" UV irradiation modes are available for collective or individual control.

Compact size

80mm in width, 125mm in height, and 140mm in depth. It could fit into any small space.



External control

UV irradiation can be externally controlled using the digital I/O, enabling automatic control suitable for production lines.

UV irradiation operation can be externally controlled using the digital I/O or the RS232C port, enabling automatic control suitable for production lines.

UV sensor

Irradiation intensity measurement and calibration can be done easily at the actual production line using the slim UV sensor.



Programmable irradiation

Up to eight different irradiation patterns can be saved.

Multiple setting profiles

The programmable irradiation capability helps prevent curing distortion and enable high-quality precision bonding at a smaller temperature increase.

UJ35 software*

Free downloadable software available from our website for easy PC operation. Software will allow you to operate the unit from a PC. Also allows you to save irradiation programs.



Global 3-year warranty

Guaranteed for three years from date of purchase (controller only).



* Downloadable from the following URL: <http://www.panasonic-electric-works.com/peweu/en/html/25832.php>

User-friendly interface

Quick & easy setup immediately after installation



Simple interface

Easy-to-read display and easy-to-setup panel

Only four steps required for basic settings.

1. Choose LED head (CH1 to 4).
2. Set irradiation intensity (%).
3. Set irradiation time.
4. Start emission.

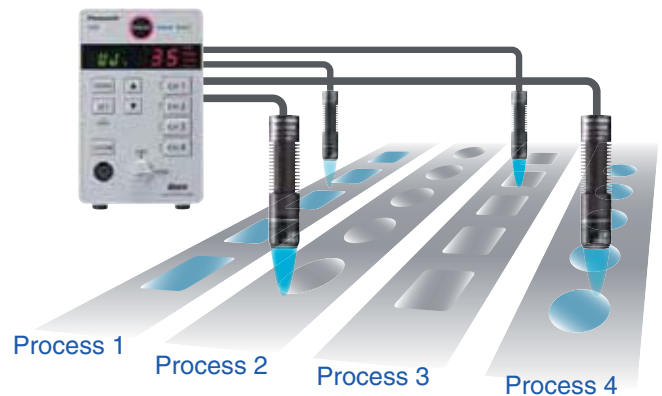


Four individually controllable heads

The irradiation power and time can be individually controlled.

With a lamp type model, one process requires one irradiation unit. With UJ30/35, one unit can be used for up to four processes due to its four individually-controllable LED heads.

The UJ30/35 will issue an alarm if any of the LED heads needs replacing or overheats.

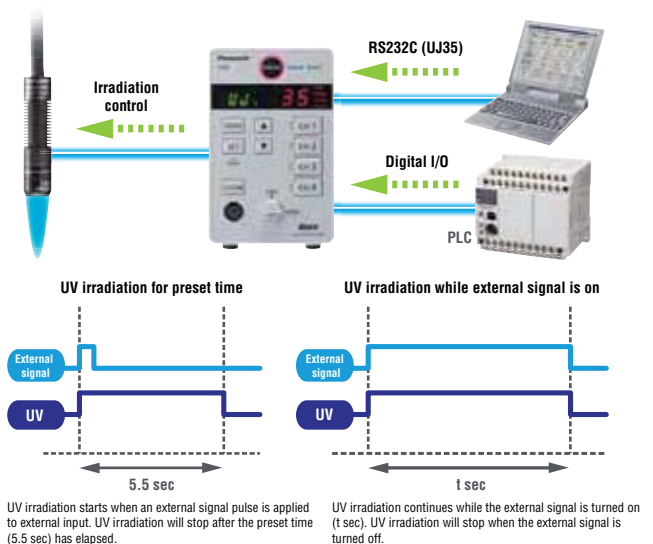


External control

UV irradiation can be controlled by external signal inputs, enabling automatic control in production lines.

The extremely compact UJ35 controller can be set up either with a complimentary PC software* or directly via the controller's well designed front panel. In either case, setting up the UJ35 is just a matter of minutes. Being equipped with a digital I/O interface with detachable terminal blocks, it is easy to connect UJ30/35 to an external PLC or PC. The UJ35 additionally offers an RS232C port.

*Downloadable from the following URL:
<http://www.panasonic-electric-works.com/peweu/en/html/25832.php>



Stable irradiation

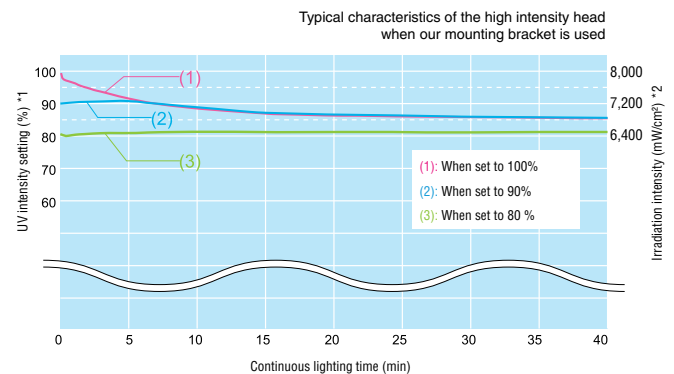
Strict quality control

Prevention of resin curing defects and bonding failures

Temperature feedback control

±3% or better UV irradiation accuracy

Each UJ30/35 head is equipped with a temperature sensor, which is continuously monitored by the controller, keeping UV irradiation stable within a range of ±3%.



*1: "100" indicates the 100% intensity setting.
*2: When equipped with the ANUJ6324 lens

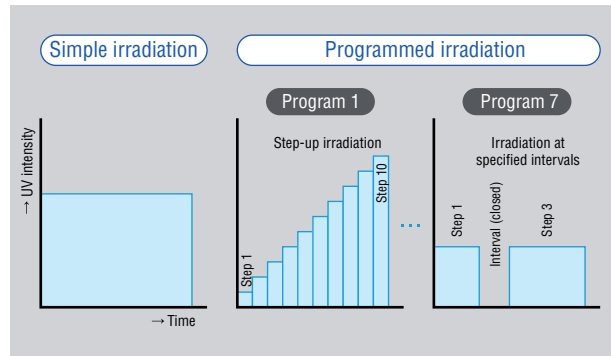
Programmable irradiation function (UJ35)

This function prevents curing distortion and enables high-quality precision bonding.

The irradiation can be programmed to control the UV radiation power and time depending on the resin and curing application, supporting high-quality, high-precision bonding with minimum shrinkage.

In addition to the simple irradiation mode whereby irradiation is emitted continuously at a constant intensity, up to seven different irradiation patterns (product types) can be programmed for each of the four LED heads. This includes the step-up mode, in which the intensity is changed over time, and the interval mode, in which irradiation is performed at specified intervals.

Program examples



Significantly higher reliability for bonding and fixing

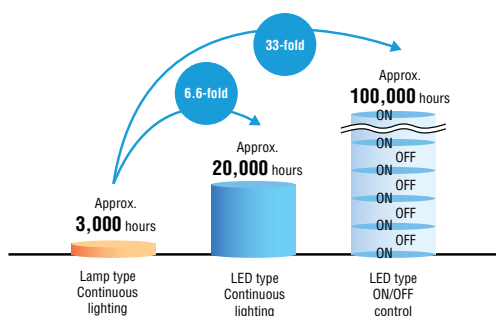
New slim UV sensor port (UJ35)

Because the UV sensor measures just 5mm in height, the irradiation intensity can be measured directly at the work station or in the system without having to disassemble the equipment. When the intensity deviates too much from that required, the system can automatically adjust it as necessary. The advantages are clear: curing quality is consistent and process reproducibility very good.



Environmentally friendly and reliable

Long-lasting, cost-effective LED type UV system



LED technology

Each UJ30/35 LED head is equipped with a high-power UV LED. This means the heads enjoy a lifetime of 20,000 hours on average! Moreover, the LEDs neither require a warm-up nor cooling-off period, nor will frequently switching them on and off shorten their lifetime.

Running costs are significantly lower compared to conventional devices with UV lamps, and because irradiation can be adjusted as required, you enjoy a high degree of flexibility.

Low power consumption, reduced CO₂ emissions

Power consumption is 60VA (at 100VAC) or lower even with all four heads turned on, contributing to CO₂ reduction.

Since less heat is generated than by lamp type systems, cooling, for example with an air conditioner, is not necessary.

Global 3-year warranty

Reliable operation anywhere in the world



Standard flexible head cables



Flexible cable enables installation on moving parts.

The heads' electrical cables (not fibers) can be extended up to 10m, permit a bending radius of 33mm, and can be bent 10,000,000 times or more! This allows easy, cost-saving installation.

(The minimum allowable bending radius for a cable 5m or longer is 45.6mm.)

Fanless structure

Ideal for high-precision processes. Helps reduce costs.

UJ30/35 employs no electromechanical components. Even cooling is realized without a fan, making the UJ30/35 ideal for use in clean rooms. Parts are not subject to wear & tear, thus no maintenance is required.

Compliant with RoHS, CE marking

Lead and mercury free

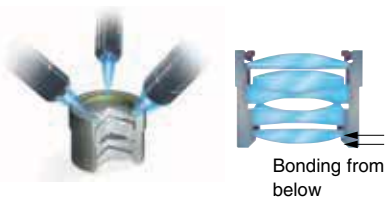
Unlike lamps, LED heads do not contain mercury.

UJ30 and 35 complies with the RoHS Directive, ensuring environmentally safe use. They also have the CE mark.

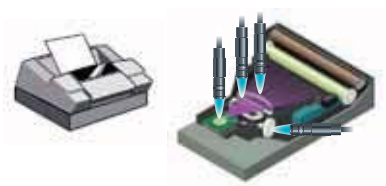
Application examples

Digital home appliances

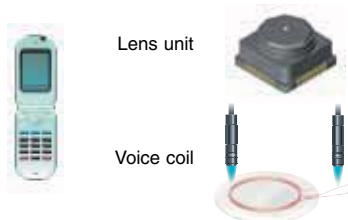
Bonding camera lenses to optical tubes for digital cameras, mobile phones, etc.



Bonding optical parts of printers/copying machines



Fixing/bonding precision parts of mobile phones



Printing/Marking

Curing ink on labels/stickers

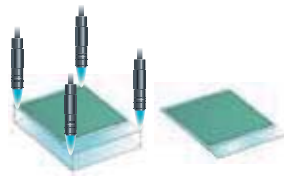


Curing printing ink on electronic components, sealing degassing holes

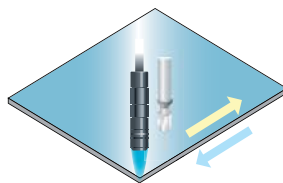


LCD

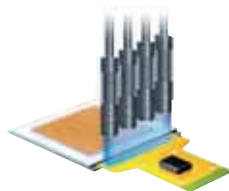
Temporarily bonding of film display boards



Bonding/sealing glass substrates for LCD



Curing moisture-proof coating on LCD



Automotive parts

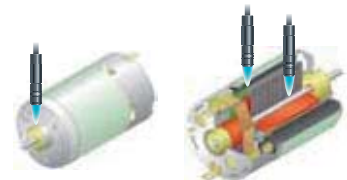
Bonding and protective coating of automotive connector pins



Bonding LCD boards to FPCs

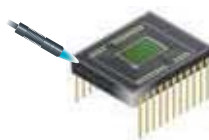


Bonding motor parts for wipers/power windows



Electronic components

Bonding CCD protective glass plates



Moisture-proof coating on coil wires



Medical equipment

Bonding of syringe needles



For a wide variety of applications

Heads A 365nm wavelength type and a 385nm type are available, with a head length of 50mm or 120mm.

Directly connectable to the controller without a connection cable

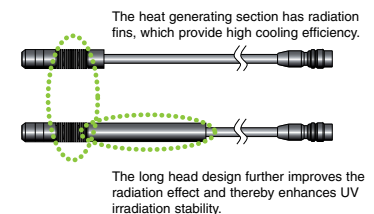
**Standard head:
365nm wavelength**

Irradiation intensity: 9,300mW/cm²

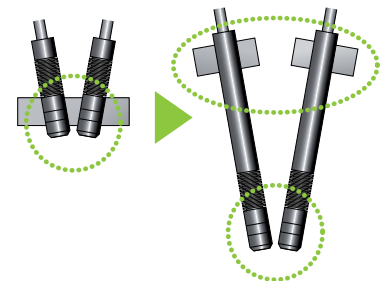


Head lengths selectable according to the installation location conditions

When a standard lens is attached, the head is the shortest in its class (50mm).



The 120-mm long head has higher heat radiation performance. Since this type can be fixed at its rear, other equipment can be easily added without crowding around the front ends of the heads.



For higher irradiation power or shorter cycle time

**High intensity head:
365nm wavelength**

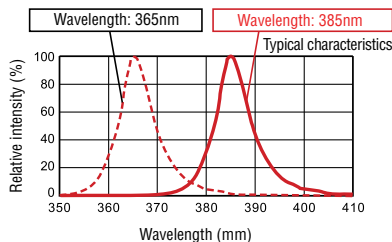
Irradiation intensity: 10,100mW/cm²



For curing deeper points of resin or curing resin through transparent surfaces

385nm type head

Irradiation intensity: 12,800mW/cm²



Lenses A wide variety of irradiation options meets various application requirements for bonding/fixing.

Basic type for making full use of the irradiation power

Standard lens

(Circular irradiation)

- ANUJ6423 (ø 3mm)
- ANUJ6424 (ø 4mm)
- ANUJ6426 (ø 6mm)
- ANUJ6428 (ø 8mm)
- ANUJ6420 (ø 10mm)



The right angle irradiation broadens the head installation options.

Side view lens

(Circular irradiation, angled at 90°)

- ANUJ6426SV (ø 6mm)
- ANUJ6428SV (ø 8mm)
- ANUJ6420SV (ø 10mm)



For a wider irradiation area or to reduce the number of heads.

Cylindrical lens

(Elliptical irradiation)

- ANUJ6450S (R5)
- ANUJ6475S (R7.5)



For narrow point irradiation or fine bonding

Rod lens

(Small diameter circular irradiation)

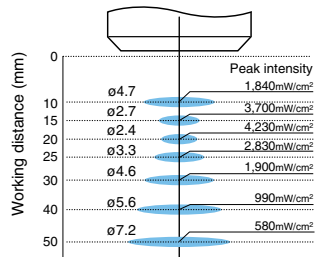
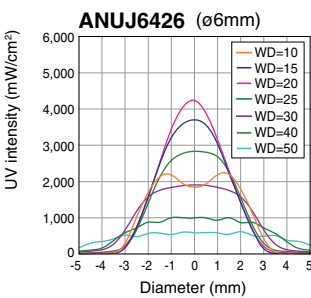
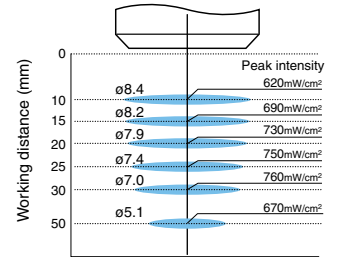
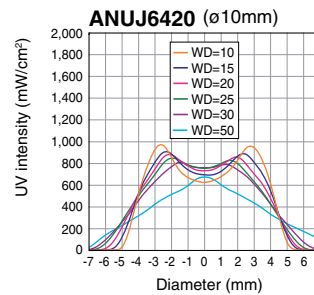
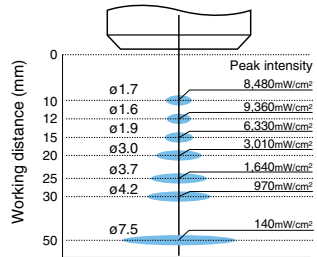
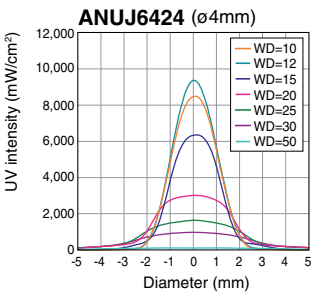
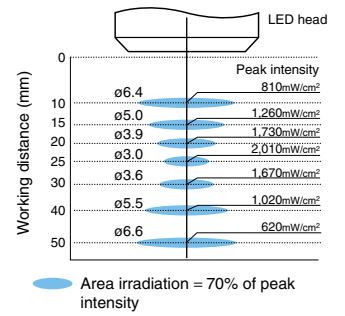
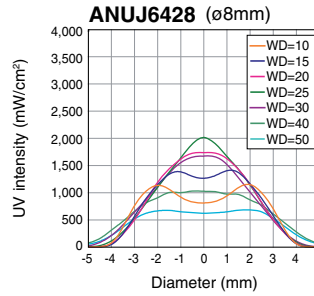
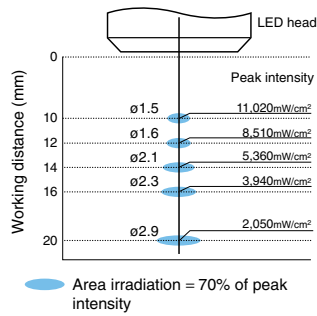
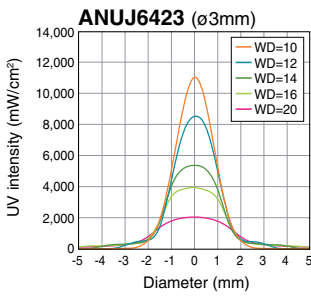
- ANUJ6447L (ø 4mm)
- ANUJ6467L (ø 6mm)



Intensity profiles

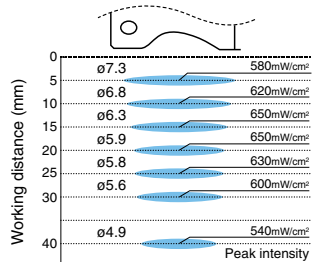
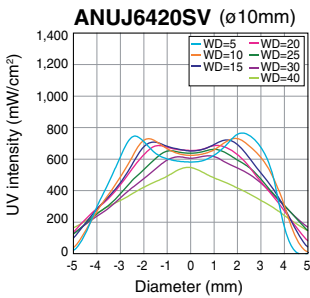
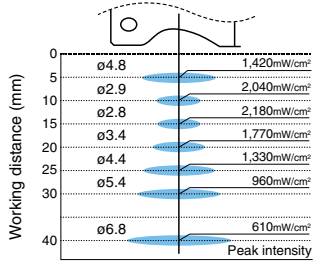
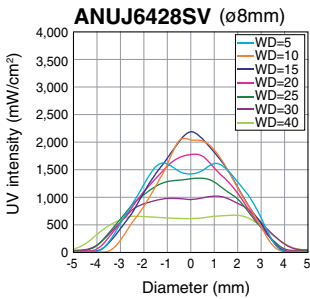
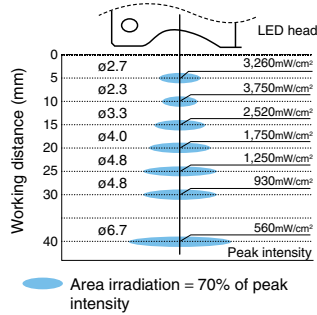
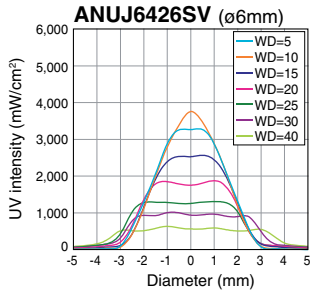
Standard head ANUJ6172/6173

Standard lens

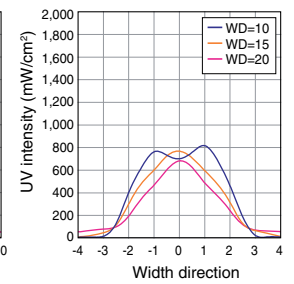
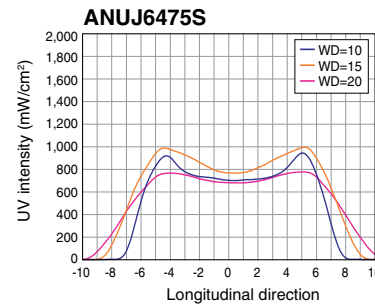
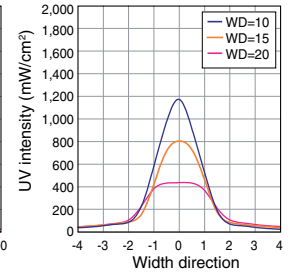
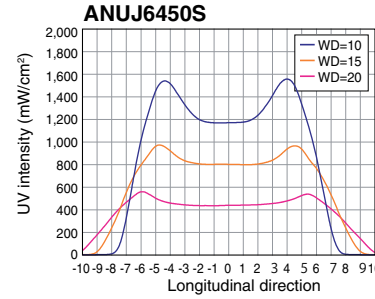


Standard head ANUJ6172/6173

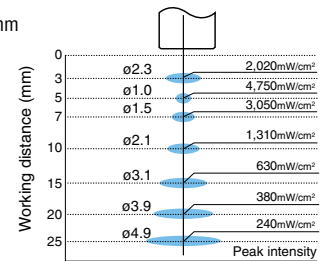
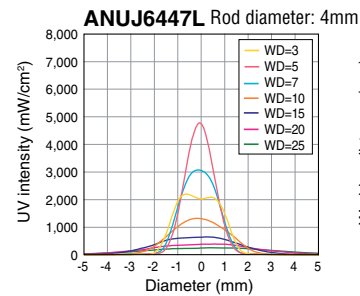
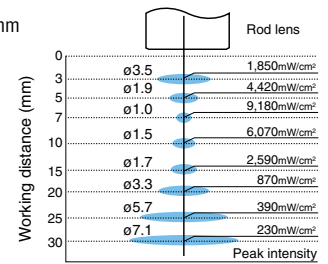
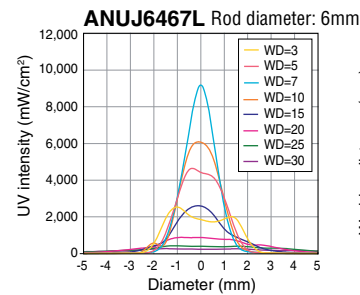
Side view lens



Cylindrical lens

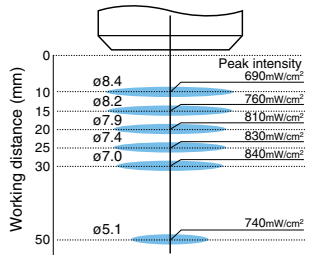
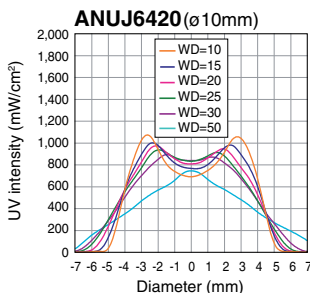
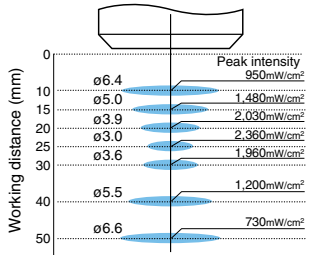
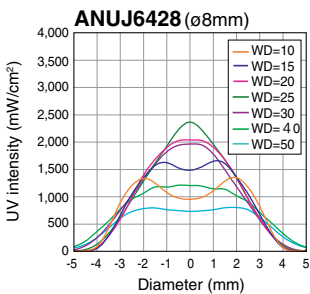
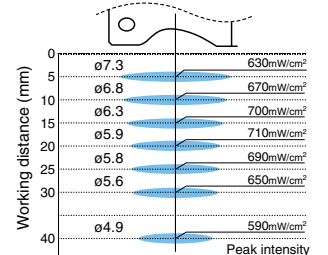
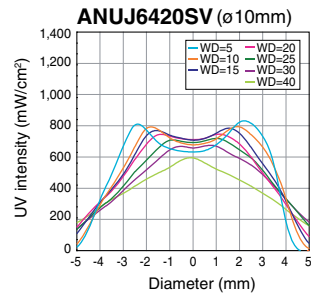
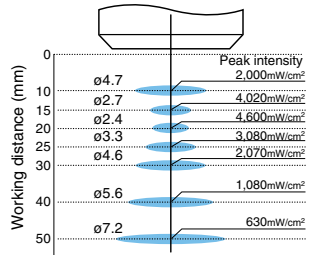
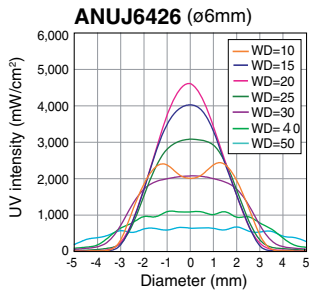
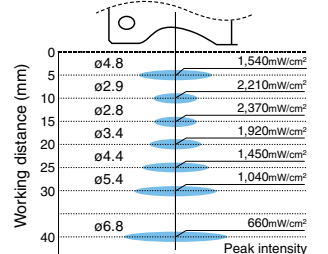
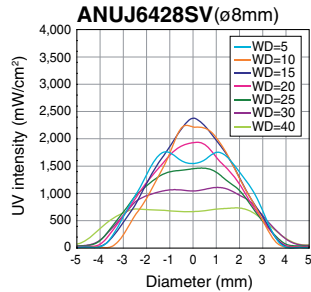
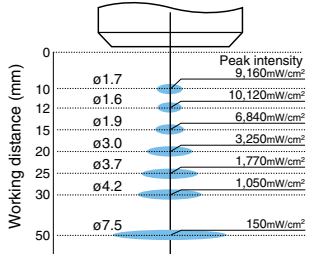
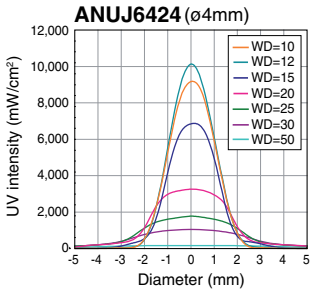
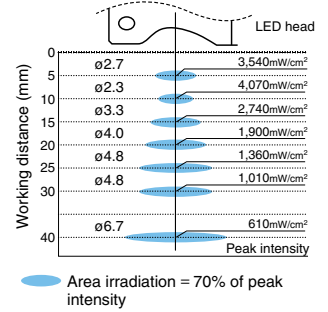
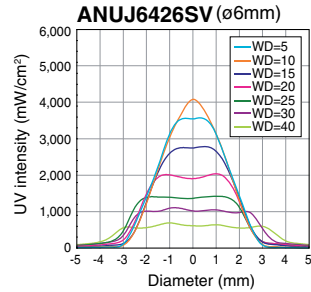
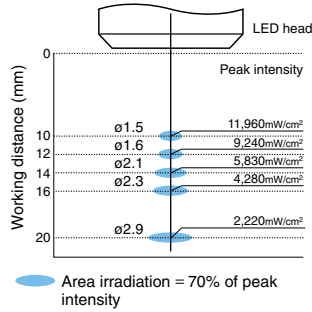
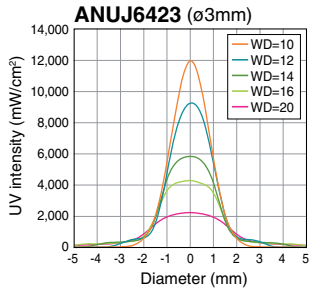


Rod lens



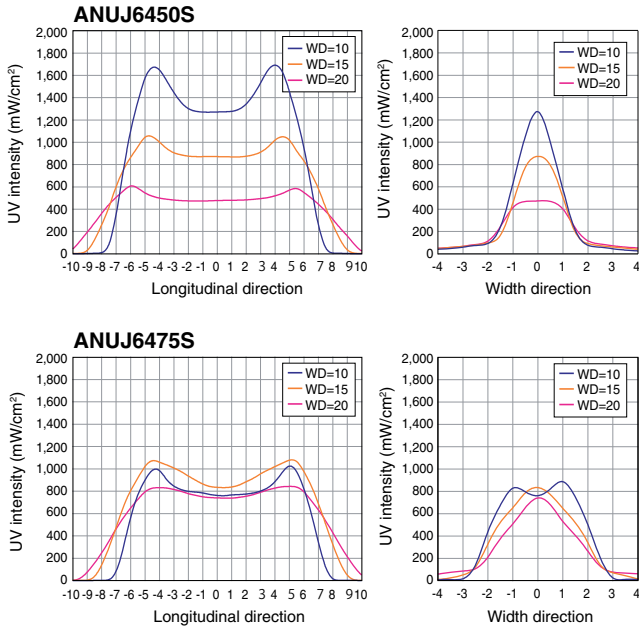
Standard lens

Side view lens

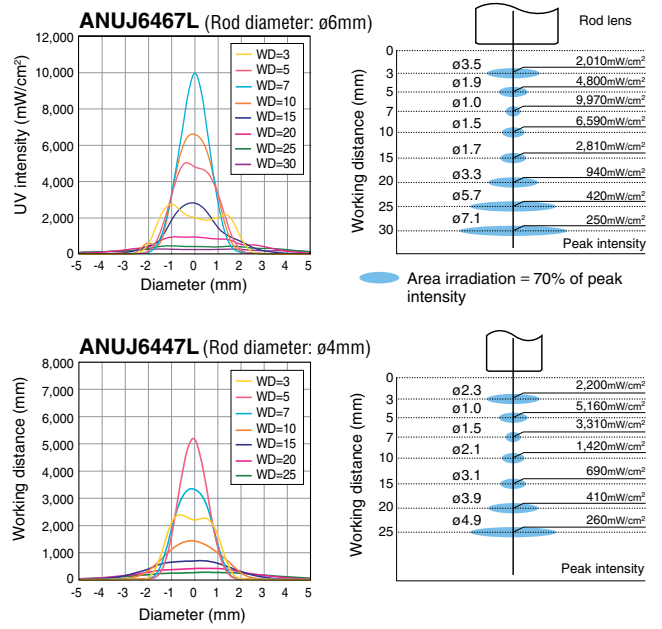


High power head ANUJ6170/6171

Cylindrical lens

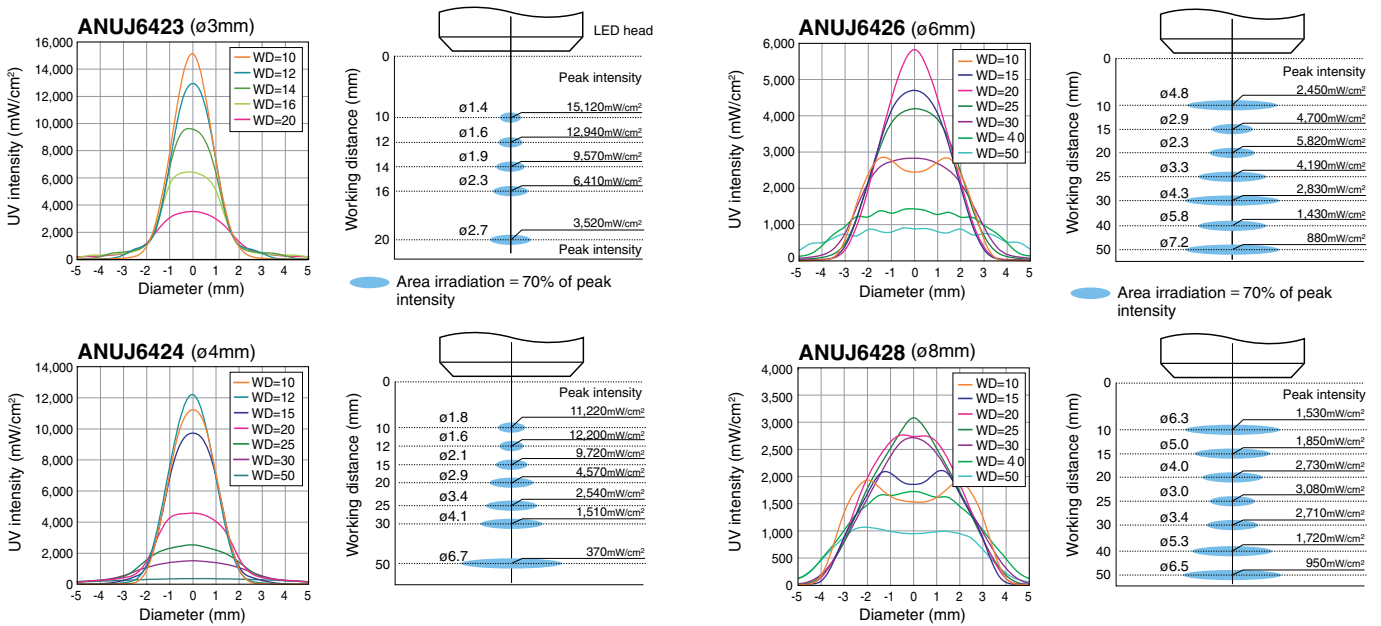


Rod lens

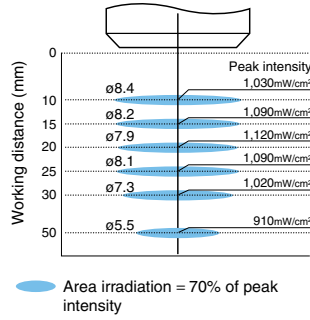
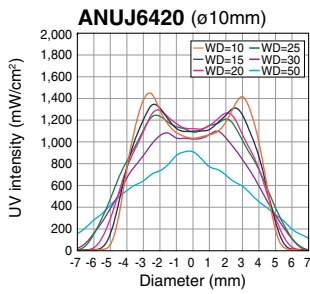


385nm type head ANUJ6174/6175

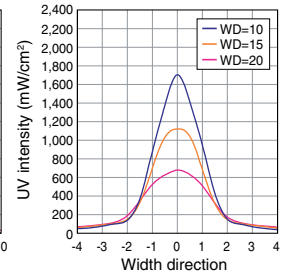
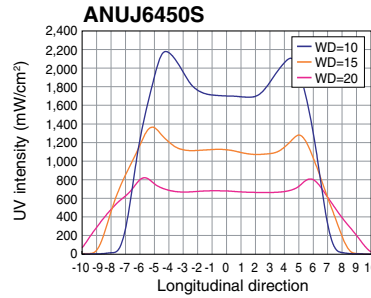
Standard lens



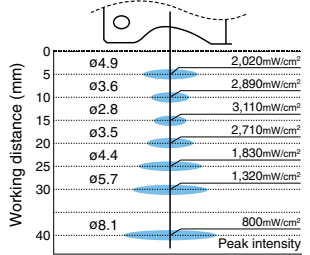
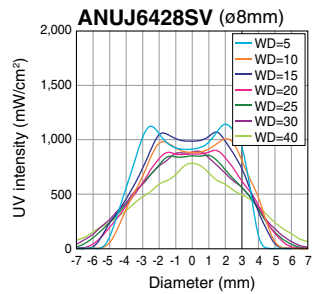
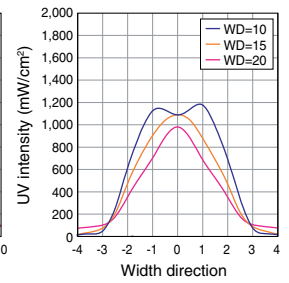
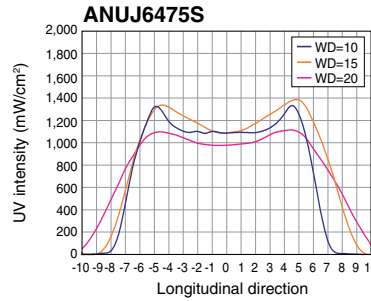
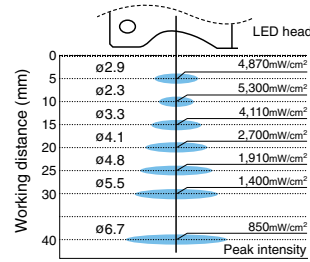
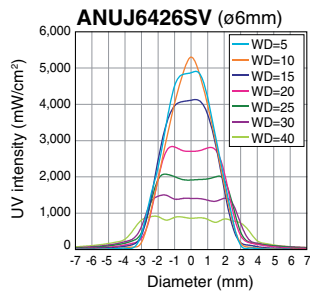
Standard lens



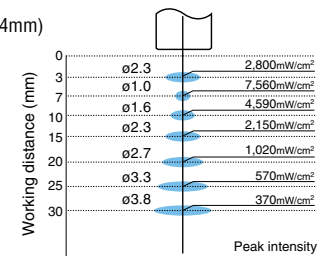
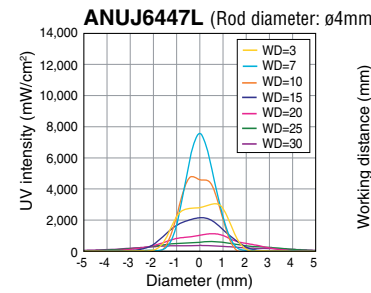
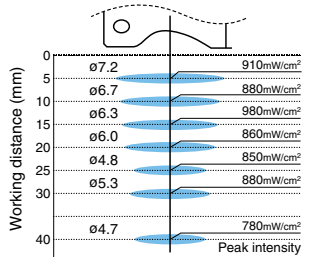
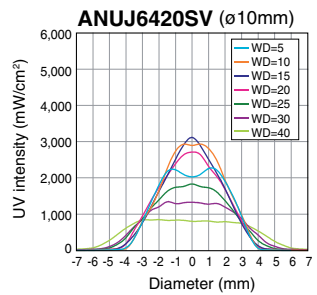
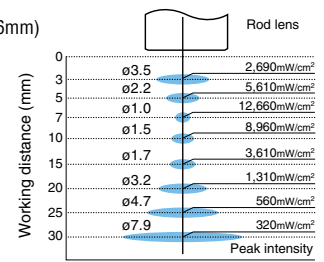
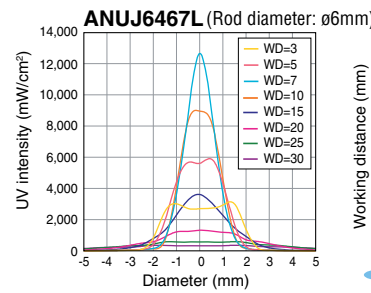
Cylindrical lens



Side view lens



Rod lens



Product range

Controllers

UJ30 controller
ANUJ3000



Up to four heads can be connected.
With an AC adapter

UJ35 controller
ANUJ3500



Up to four heads can be connected.
With an AC adapter.
Compatible with a UV sensor (ANUJ3800).


UV sensor
ANUJ3800



UV sensor dedicated to UJ35


Heads & cables

Standard head (9,300mW/cm²)
ANUJ6172



ø 12mm x 50mm
Cable length: 1.9m

ANUJ6173



ø 12mm x 120mm
Cable length: 1.83m

Connection cable
ANUJ62□□


- For high intensity heads

Cable length 1.7m: ANUJ6220
Cable length 3m: ANUJ6230

Cable length 5m: ANUJ6250
Cable length 7m: ANUJ6270


Cable length 10m: ANUJ6200

High intensity head (10,100mW/cm²)
ANUJ6170




ø 12mm x 50mm
Cable length: 0.2m

ANUJ6171




ø 12mm x 120mm
Cable length: 0.13m

385nm type head (12,800mW/cm²)
ANUJ6174



ø 12mm x 50mm
Cable length: 0.2m

ANUJ6175



ø 12mm x 120mm
Cable length: 0.13m

Lenses

Standard lens
ANUJ642□



Circular irradiation
ø 3mm: ANUJ6423
ø 4mm: ANUJ6424
ø 6mm: ANUJ6426
ø 8mm: ANUJ6428
ø 10mm: ANUJ6420

Side view lens
ANUJ642□SV




Circular irradiation, angled at 90°
ø 6mm: ANUJ6426SV
ø 8mm: ANUJ6428SV
ø 10mm: ANUJ6420SV

Cylindrical lens
ANUJ64□□S



Elliptical irradiation
R5: ANUJ6450S
R7.5: ANUJ6475S

Rod lens
ANUJ64□7L



Small diameter circular irradiation
ø 4mm: ANUJ6447L
ø 6mm: ANUJ6467L

Options

UV sensor
ANUJ3800

UV sensor dedicated to UJ35

Mounting bracket
ANUJ6804

Goggles
ANUP5001SG-D

UV protective goggles

Specifications

Controllers

	UJ30 (Standard model)	UJ35 (High performance model)
Product number	ANUJ3000	ANUJ3500
Connectable heads	1 to 4 heads	
UV sensor	Not compatible	Compatible (Dedicated to UJ35)
UV irradiation	One pattern in simple mode The heads are either collectively or individually controlled.	One pattern in simple mode and programmed irradiation (up to 7 patterns with up to 10 steps); the heads are either collectively or individually controlled.
Type switching	None (1 type)	Switchable (8 types)
Intensity/irradiation control	Digital intensity and irradiation control Manual/timer control (0.1 to 99.9, 100 to 999 sec) Calibration function using the optional dedicated sensor (UJ35 only)	
Setting/Operation	Setting by the operation switches and power-on/off by a key switch	RS232C (UJ35 setup tool)
Display	—	7-segment display
Cooling method	Natural cooling (without a fan)	
External control	Method	Digital I/O
	External input	Individual/all heads, stop, interlock, type switching
External output	READY signal, error signal, warning output, BUSY output (each head separately) and +5V output (for indicators)	
Operating voltage	Supplied AC adapter: 100 to 240 VAC (±10%), 50/60Hz, 60VA (at 100 VAC)	
Operating temperature and humidity	0 to +35°C, 30 to 85% RH (No condensation at 25°C)	
Storage temperature and humidity	-10 to +60°C, 30 to 85% RH (No condensation at 25°C)	
Accessories	AC adapter, key, and installation instructions	
Weight	Approx. 940g (excl. the AC adapter)	Approx. 960g (excl. the AC adapter)

Heads

	Product No.		ANUJ6172 ANUJ6173				
	Standard head *1	Cable length	1.9m (ANUJ6172), 1.83m (ANUJ6173)				
Standard head *1	Standard lens	Spot diameter	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
		Lens product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
		Irradiation intensity (mW/cm ²)*2	9,300	7,900	3,600	1,700	640
		Working distance	10mm	12mm	20mm	25mm	30mm
High intensity head	Product No.	ANUJ6170 ANUJ6171					
	Cable length	0.2m (ANUJ6170), 0.13m (ANUJ6171) A connection cable (1.7m/3m/5m/7m/10m) is required for connection to the controller.					
	Standard lens	Spot diameter	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
		Lens product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
High intensity head		Irradiation intensity (mW/cm ²)*2	10,100	8,600	3,900	2,000	710
		Working distance	10mm	12mm	20mm	25mm	30mm
	385nm type head	Product No.	ANUJ6174 ANUJ6175				
		Cable length	0.2m (ANUJ6174), 0.13m (ANUJ6175) A connection cable (1.7m/3m/5m/7m/10m) is required for connection to the controller.				
Standard lens		Spot diameter	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
		Lens product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
385nm type head		Irradiation intensity (mW/cm ²)*2	12,800	10,300	4,900	2,600	870
		Working distance	10mm	12mm	20mm	25mm	30mm
	Common item	Light source	Class 3 LED product				
		Life time *3	20,000 hours (When the temperature of the LED in the head is 60°C or less.)				
Operating temperature and humidity		+5 to +35°C, 30 to 85% RH (No condensation at 25°C)					
	Storage temperature and humidity	-10 to +60°C, 30 to 85% RH (No condensation at 25°C)					

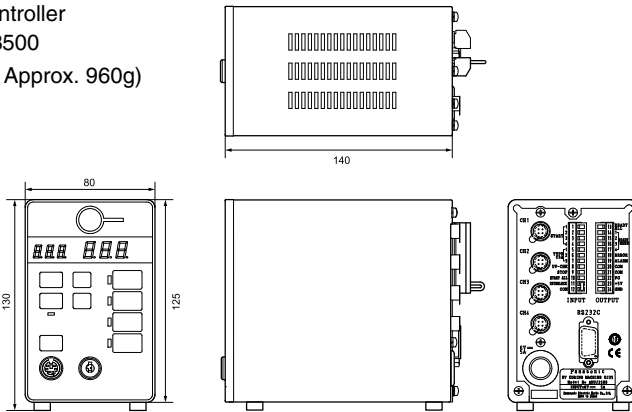
*1 The cable for standard heads is supplied in a fixed length.

*2 When being fixed to the metal attachment, the ambient temperature is 25°C, and the intensity is set to 100%.

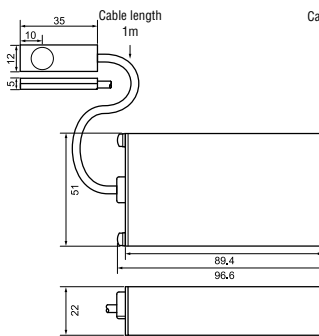
*3 Not a guaranteed value.

Dimensions

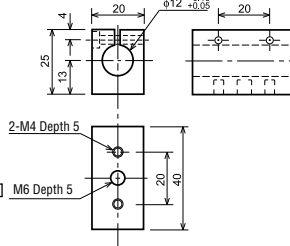
UJ35 controller
ANUJ3500
(Weight: Approx. 960g)



UV sensor
ANUJ3800

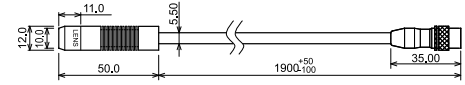


Mounting bracket
ANUJ6804

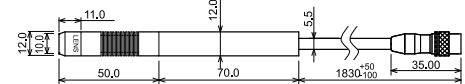


Head

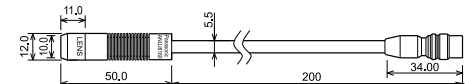
ANUJ6172



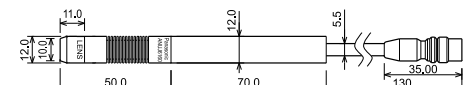
ANUJ6173



ANUJ6170/6174



ANUJ6171/6175

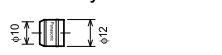


Connection cable

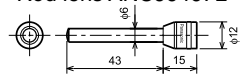
ANUJ6220



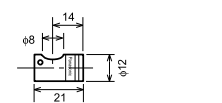
Standard/cylindrical lens



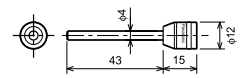
Rod lens ANUJ6467L



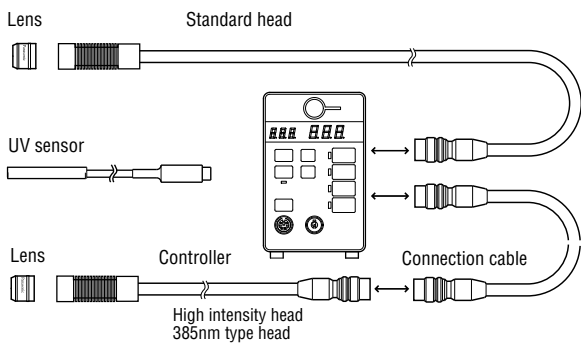
Side view lens



ANUJ6447L



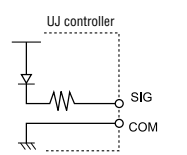
Configuration



Different types of heads can be simultaneously connected to one controller unit.

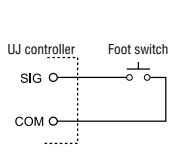
I/O wiring

Internal input circuit

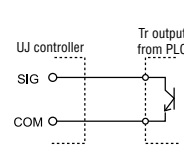


Open collector (Tr) or non-voltage input such as a relay

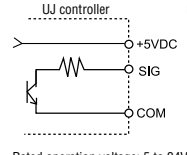
Contact input



Non-contact input

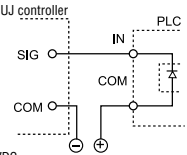


Internal output circuit

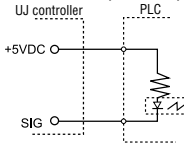


Rated operation voltage: 5 to 24VDC
Output capacity: 100mA (max)

With external power supply



With internal power supply



Safety precautions

The light source of the LED head connected to this product is classified as risk group 3 according to IEC 62471:2006, "Photobiological safety of lamps and lamp systems." Make sure to read the safety instructions.



I/O list

INPUT		OUTPUT	
Terminal No.	Signal	Terminal No.	Signal
1	START1	13	READY-All
2	START2	14	READY/BUSY1 *2
3	START3	15	READY/BUSY2 *2
4	START4	16	READY/BUSY3 *2
5	TYPE Chg1 *1	17	READY/BUSY4 *2
6	TYPE Chg2 *1	18	ERROR
7	TYPE Chg3 *1	19	ALARM
8	UV CHECK *1	20	COM
9	STOP	21	COM
10	START-All	22	FG
11	INTERLOCK	23	+5VDC
12	COM	24	COM

*1: Nos. 5 through 8 (TYPE Chg1 through 3 and UV-CHECK) are functions available with UJ35 only.

These terminals are spare for UJ30.

*2: The READY/BUSY switching of Nos. 14 through 17 is performed on the UJ30/35 controller.

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Europe

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