Panasonic
ideas for life

UV CURING SYSTEM

UJ30/35

05/2011

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.

Temperature feedback for stable irradiation

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

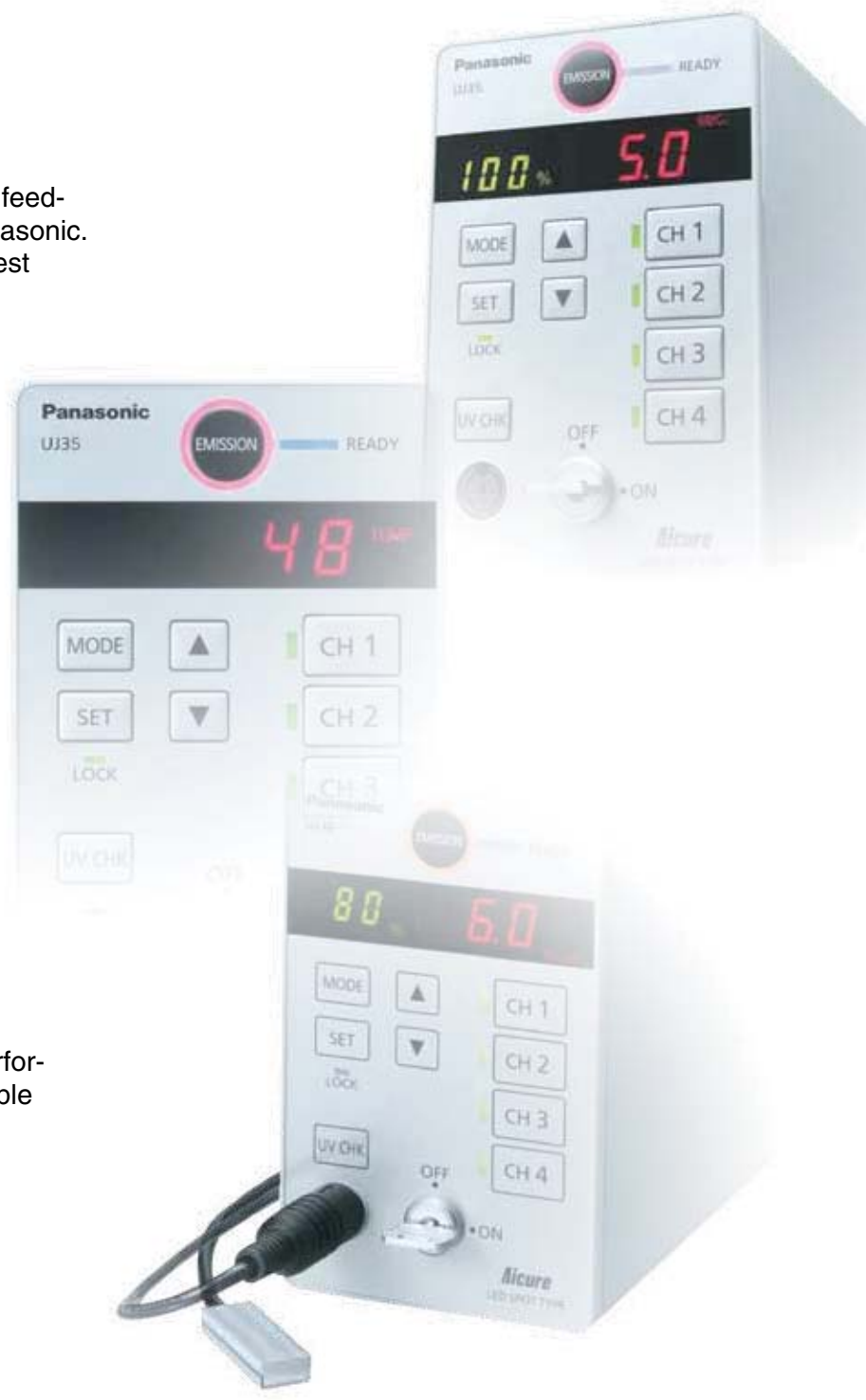
User-friendly interface

In addition to its user-friendliness, energy efficiency and being environmentally friendly, these models have a high irradiation intensity power up to 8,600mW/cm^2 (wavelength: 365nm).

Or 9,200mW/cm^2 (wavelength: 385nm) and high irradiation accuracy of ±3%.

New slim UV sensor for intensity calibration

These new models provide outstanding performance for bonding and fixing with UV curable resin.



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 (available only from Panasonic) provides excellent irradiation stability.	Only Panasonic
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 syncronized or non-syncronized irradiation.	
Compact size	80mm in width, 125mm in height, and 140mm in depth. It could fit into any small space.	Smallest in class
External control	UV irradiation can be externally controlled using the parallel I/O, enabling automatic control suitable for production lines.	UV irradiation operation can be externally controlled using the parallel 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. Only Panasonic
Programmable irradiation		The programmable irradiation capability helps prevent curing distortion and enable high-quality precision bonding at a smaller temperature increase.
Multiple setting profiles		Up to eight different irradiation patterns can be saved.
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. Free software
Global 3-year warranty	Guaranteed for three years from date of purchase (controller only).	Only Panasonic

* 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 UV irradiation intensity (%).

3. Set irradiation time.

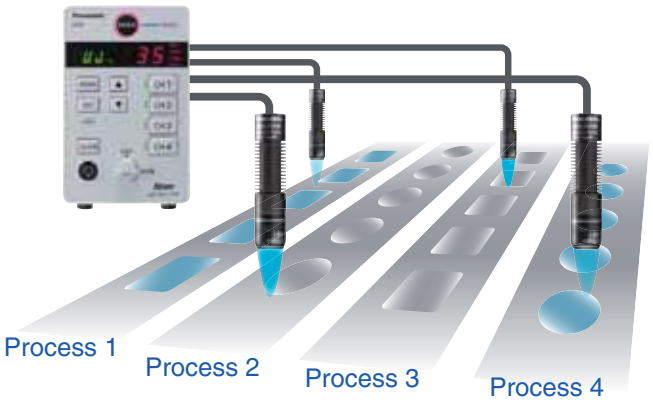
4. Start emission.

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.

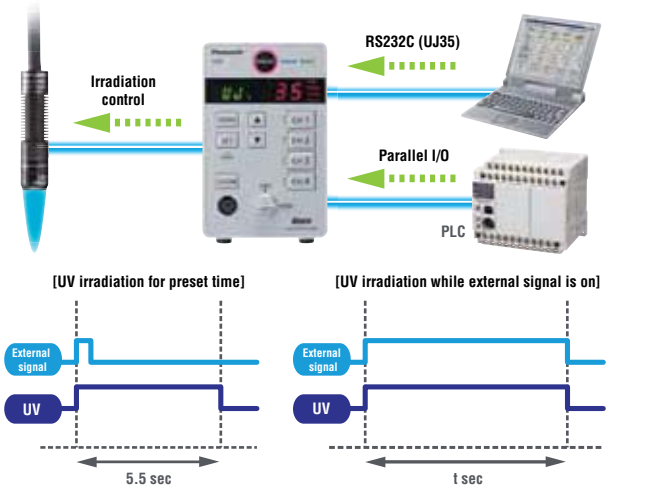


External control

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 an RS232 port and a parallel I/O interface with detachable terminal blocks, it is easy to connect UJ30/35 to an external PLC or PC.

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



UV irradiation starts when an external signal pulse is applied to external input. UV irradiation will stop after the preset time (5.5 sec) has elapsed.

UV irradiation continues while the external signal is turned on (t sec). UV irradiation will stop when the external signal is turned off.

Stable irradiation

Strict quality control

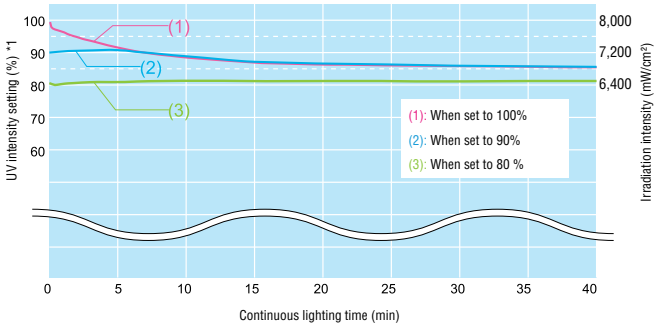
Prevention of resin curing defects and bonding failures

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%.

Typical characteristics of the high intensity head when our metal attachment is used



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

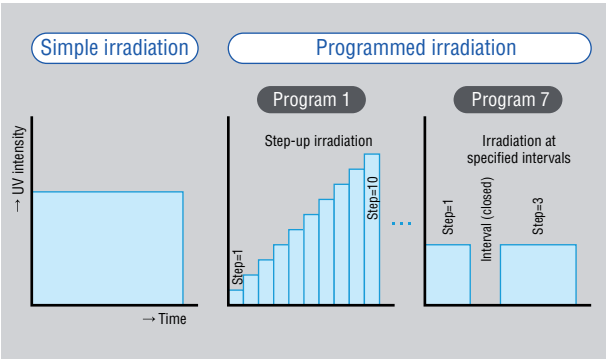
Programmable irradiation function (UJ35)

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



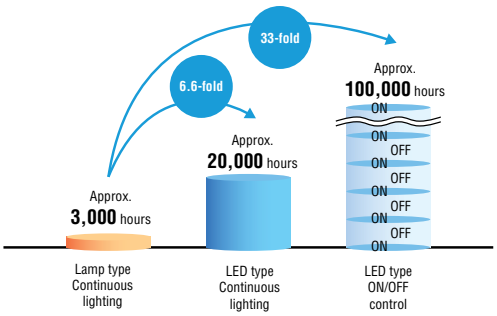
Significantly higher reliability for bonding and fixing

New slim UV sensor port (UJ35)

Using the optional UV sensor, measuring the actual irradiation intensity of a LED head is easy, and the intensity can be calibrated automatically, yielding consistent curing quality, easily reproduced.

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.

Standard flexible head cables

Flexible cable enables installation on moving parts.

The heads' electrical (not fiber) cables 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 (7.6mm diameter).]

Low power consumption, reduced CO_2 emissions

Power consumption is 60VA (at 100VAC) or lower even with all four heads turned on, contributing to CO_2 reduction.

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

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.

Global 3-year warranty

Reliable operation anywhere in the world (main unit only)

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.

(Please follow the proper industrial waste disposal procedures.)

Application examples

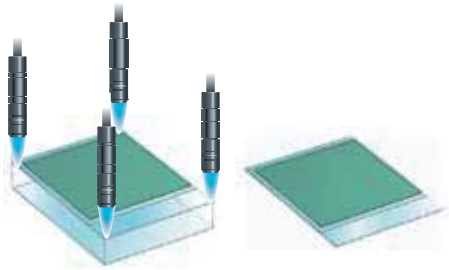
Ideal for preventing distortions from heat & curing

Digital home appliances

Bonding of lenses to optical pickup heads for personal computers

LCD

Temporarily bonding of film display boards

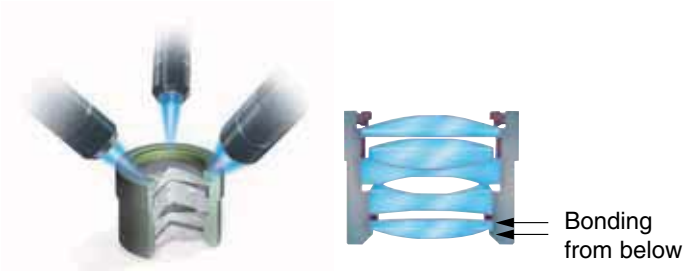


Medical equipment

Bonding of syringe needles

Digital home appliances

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



Printing/Marking

Curing ink on labels/stickers

Electronic components

Curing printing ink on electronic components, sealing degassing holes

For a wide variety of applications

Heads

A 365-nm wavelength type and a 385-nm 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: 7,500mW/cm²

For higher irradiation power or shorter cycle time

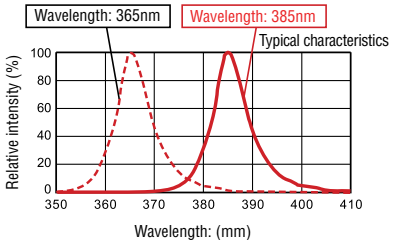
High intensity head: 365nm wavelength

Irradiation intensity: 8,600mW/cm²

For curing deeper points of resin or curing resin through a film

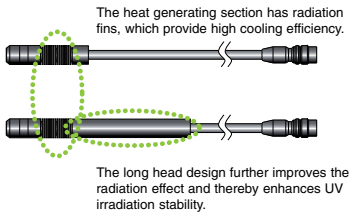
385nm wavelength head

Irradiation intensity: 9,200mW/cm²

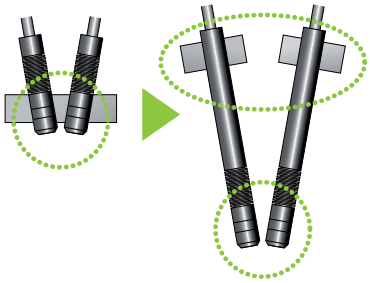


Head lengths selectable according to the installation location conditions

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.



Lenses

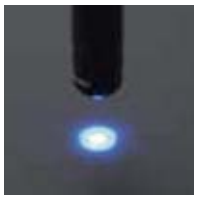
A wide variety of irradiation options meets various application requirements for bonding/fixing.

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)

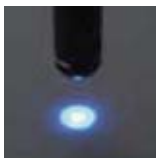
ANUJ6447L (ø 4mm)
ANUJ6467L (ø 6mm)

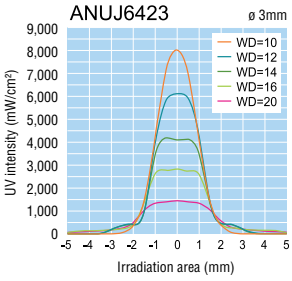
Intensity profiles

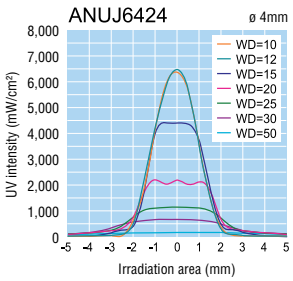
Standard head (ANUJ6162/6163)

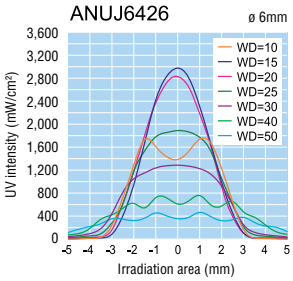
For details, please visit the following URL: http://panasonic-denko.co.jp/ac/e/fasys/uv/led/uj30-uj35/index.jsp

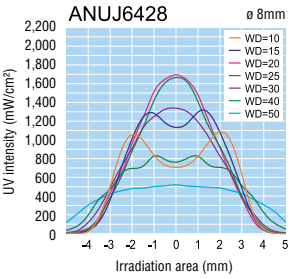
Standard lens

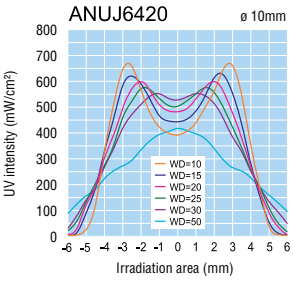




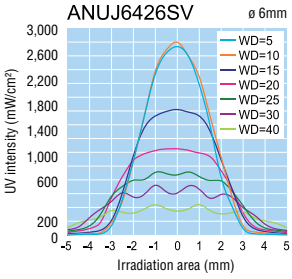


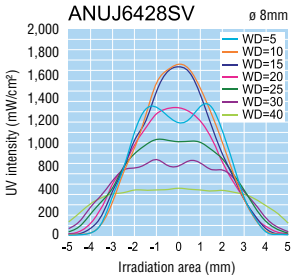


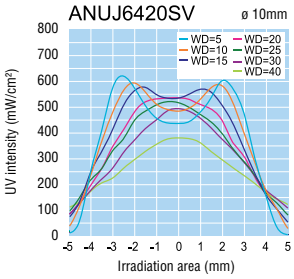




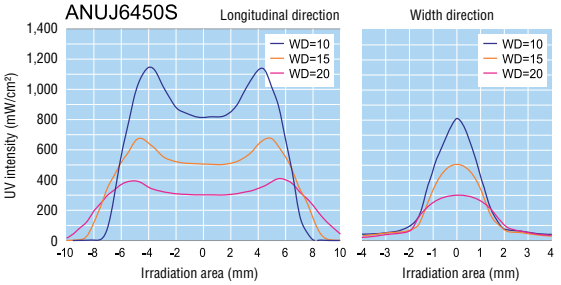
Side view lens

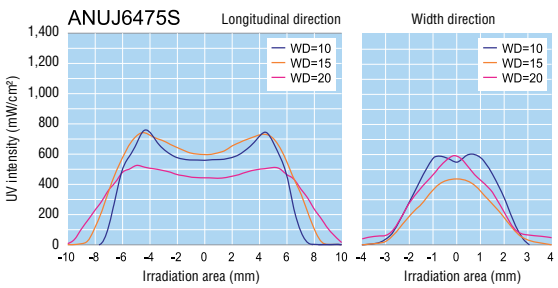




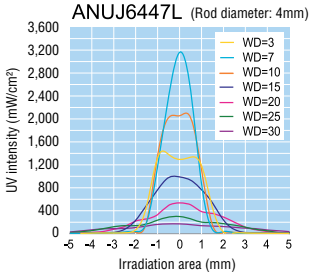


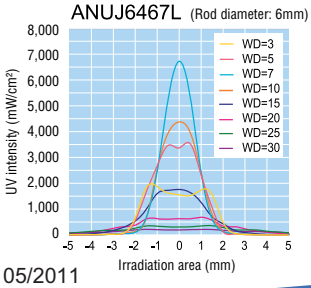
Cylindrical lens





Rod lens





Product range

Controllers

UJ30 controller
ANUJ3010

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

UJ35 controller
ANUJ3510

- Up to four heads can be connected.
- With an AC adapter
- Compatible with a UV sensor (ANUJ3800) Option for UJ35 only

UV sensor
ANUJ3800

UV sensor dedicated to UJ35 (cannot be used for UJ30)

Heads & cables

Standard head (7,500mW/cm²)
ANUJ6162

- ø 12mm x 50mm
- Cable length: 1.9m

ANUJ6163

- 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: ANUJ6220
Cable length 7m: ANUJ6230
Cable length 10m: ANUJ6200

High intensity head (8,600mW/cm²)
ANUJ6160

- ø 12mm x 50mm
- Cable length: 0.2m

ANUJ6161

- ø 12mm x 120mm
- Cable length: 0.13m

385nm wavelength head (9,200mW/cm²)
ANUJ6164

- ø 12mm x 50mm
- Cable length: 0.2m

ANUJ6165

- 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

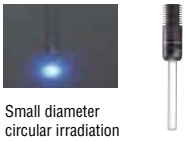
Side view lens
ANUJ642□SV

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		ANUJ3010	ANUJ3510
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	Parallel I/O	RS232C Parallel I/O
	External input	Individual irradiation/stop input, interlock, full-irradiation input, and pattern 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 (exl. the AC adapter)	Approx. 960g (exl. the AC adapter)

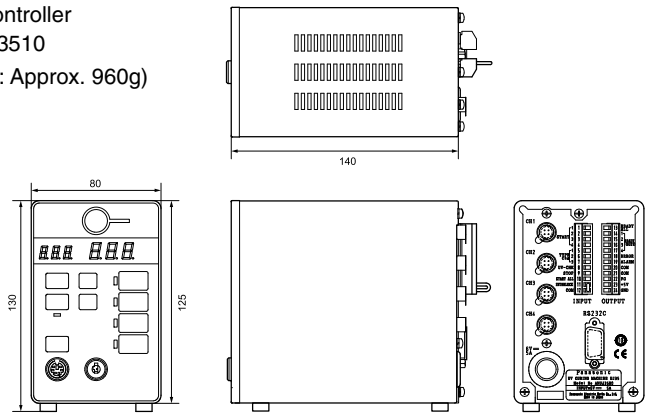
Heads

Standard head *1	Product No.		ANUJ6162 ANUJ6163				
	Cable length		1.9m (ANUJ6162), 1.83m (ANUJ6163), directly connectable to the controller				
	Compatible lens	Spot diameter	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
		Product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
	Irradiation intensity (mW/cm²)*2		7,500	6,400	2,800	1,600	520
	Irradiation distance		10mm	12mm	20mm	25mm	30mm
High intensity head	Product No.		ANUJ6160 ANUJ6161				
	Cable length		0.2m (ANUJ6160) 0.13m (ANUJ6161) A connection cable (1.7m/3 m/5 m/7 m/10m) is required for connection to the controller.				
	Compatible lens	Spot diameter	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
		Product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
	Irradiation intensity (mW/cm²)*2		8,000	6,850	2,990	1,740	850
	Irradiation distance		10mm	12mm	20mm	25mm	30mm
385nm wavelength head	Product No.		ANUJ6164 ANUJ6165				
	Cable length		0.2m (ANUJ6164) 0.13m (ANUJ6165) A connection cable (1.7 m/3 m/5 m/7 m/10m) is required for connection to the controller.				
	Compatible lens	Spot diameter	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
		Product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
	Irradiation intensity (mW/cm²)*2		9,220	7,600	3,540	2,060	610
	Irradiation distance		10mm	12mm	20mm	25mm	30mm
Common item	Light source		Class 3 LED product				
	Estimated lamp life *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.

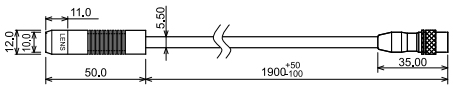
Dimensions

UJ35 controller
ANUJ3510
(Weight: Approx. 960g)

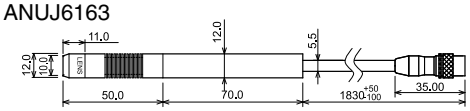


Head

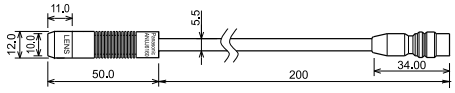
ANUJ6162



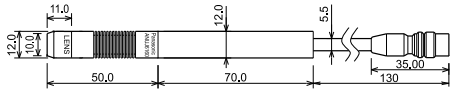
ANUJ6163



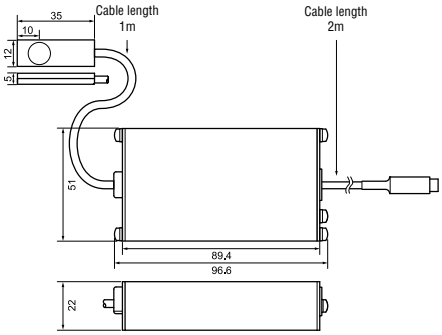
ANUJ6160/6164



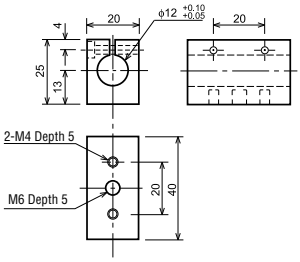
ANUJ6161/6165



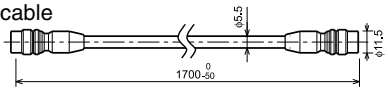
UV sensor
ANUJ3800



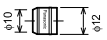
Metal head attachment
ANUJ6804



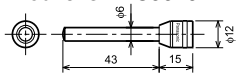
Connection cable
ANUJ6220



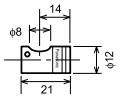
Standard/cylindrical lens



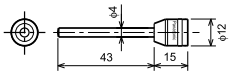
Rod lens ANUJ6467L



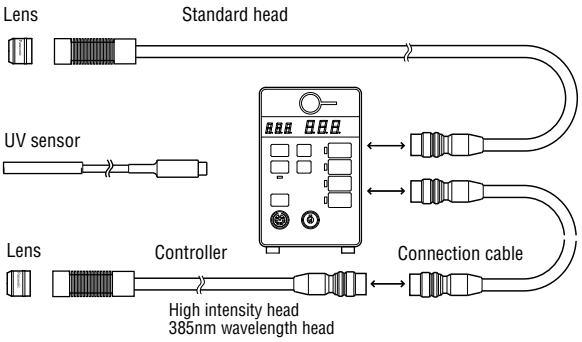
Side view lens



ANUJ6447L



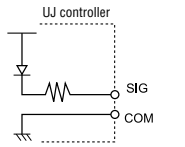
Configuration



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

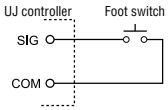
I/O specifications

Input specifications

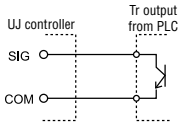


Open collector (Tr) or non-voltage input such as a relay

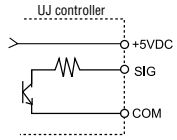
Contact input



Non-contact input

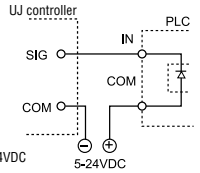


Output specifications

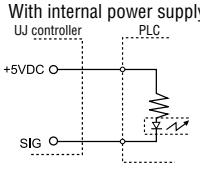


Rated operation voltage: 5 to 24VDC
Output capacity: 100mA (max)

With external power supply



With internal power supply



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.

Safety precautions

This LED type UV curing system uses a risk group 3 LED.
Make sure to read the safety labels.

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