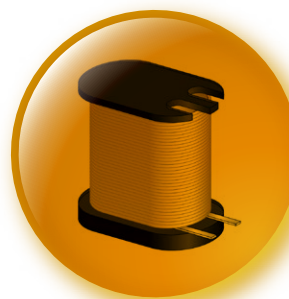
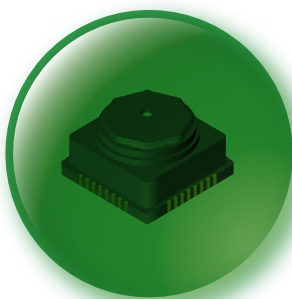
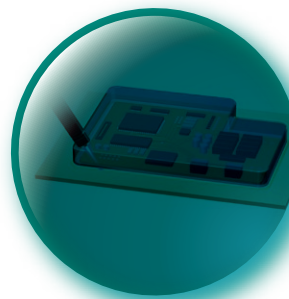
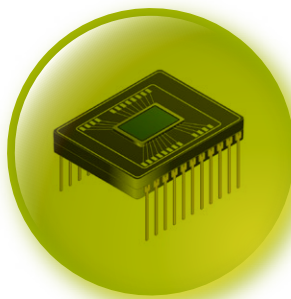
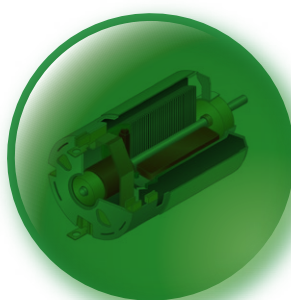
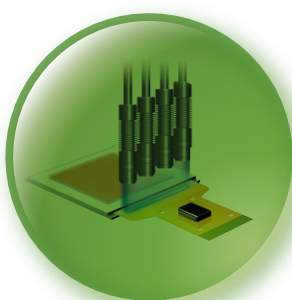
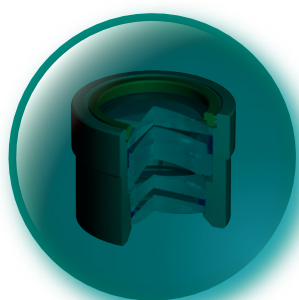


Aicure UJ series

## Application Guide



# Aicure UJ Series Features and Effects



Features	Effects	Cost	Operability	Functionality	Eco
High-power wide-range UV irradiation	Reducing the time required for curing (takt time)				
Stable UV intensity achieved by temperature feedback control	Stabilizing quality				
Irradiation intensity can be displayed and set on the controller with a UV sensor (option) connected.	Simplifying the UV intensity control operations and automating the intensity calibrations				
Low-temperature curing protects molded objects from thermal distortion.	Improving bonding accuracy				
Combinations of three types of heads and 12 types of lenses are available.	Providing irradiation conditions ideal for the desired purpose				
The lead time is shorter and the costs are lower than those using the light guide fiber type.	Enhancing productivity				
The programmed irradiation allows one LED head to irradiate objects at multiple UV intensities.	Cutting the initial cost The smaller unit requires less space.				
Power consumption: Lamp type: 280 VA → LED spot type: 70 VA or less (approx. 1/4)	Low power consumption, contributing to reduction of CO <sub>2</sub> emissions				
The fan-less structure eliminates the need for measures against vibrations or dust.	Cutting the initial and running costs				
UV-sensitive resin can be detected by using Aicure as a light source for inspection.	Stabilizing inspection conditions and thereby improving quality Cutting the initial cost				
Estimated light source life: 20,000 hours	Significantly reducing the required labor and running costs for replacing lamps				



## Contents

Aicure UJ Series Features and Effects	2	
Digital home appliances	4	
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Automotive parts	7	
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Wide variety Product Lineup	11	

# Digital home appliances

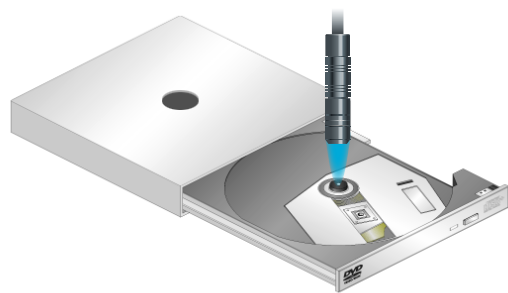
## Application Guide



### 1 Bonding of lenses to optical pickup heads for personal computers

#### Optical pickup head

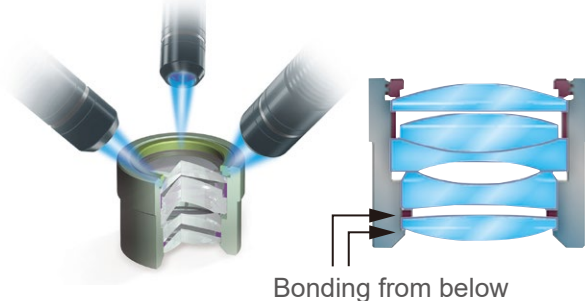
Bonding edges of pickup head lenses



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

#### Camera lens

Bonding camera lenses to optical tubes



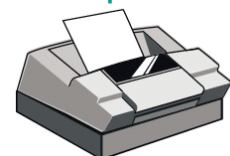
Bonding from below



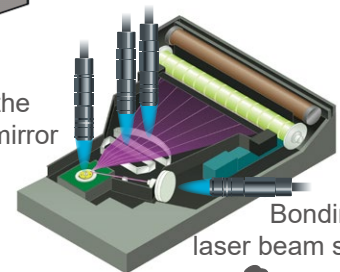
### 3 Assembling optical parts of printers/copying machines

#### Laser printer

Bonding the optical lens



Bonding the polygon mirror



Bonding the laser beam source

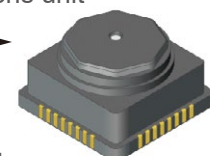


### 4 Fixing/bonding precision parts of mobile phones

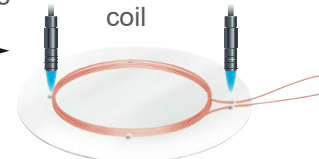
Bonding the lens unit



Bonding the diaphragm (cone)



Bonding the voice coil



# LCD

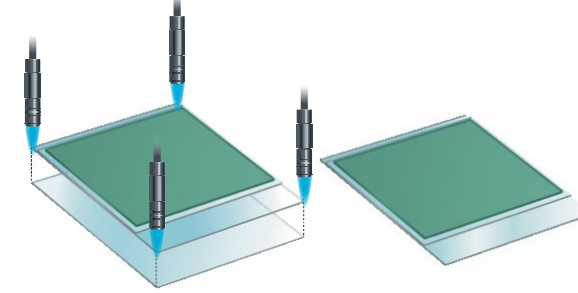
## Application Guide



### 1 Temporarily bonding film display boards

#### Film display

Temporarily bonding the film board

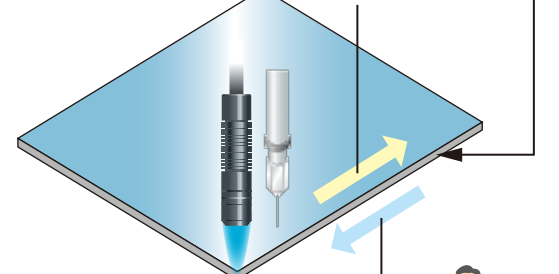


### 2 Bonding and sealing glass substrates for LCD

#### Glass substrates for LCD

Injecting UV resin along the seam between glass substrates

Forward: Half curing



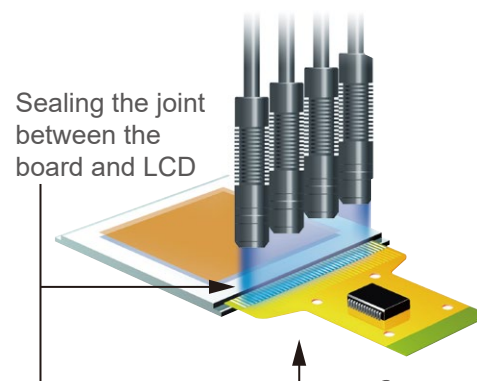
Backward: Complete curing



### 3 Moisture-proof coating on LCD board terminals

#### LCD board terminals

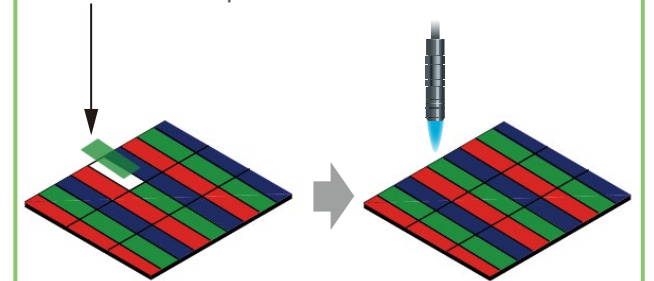
Sealing the joint between the board and LCD



### 4 Correcting defects in color filters of LCD panels

#### Color filter

Placing and bonding color ink onto defective portions



#### Advantages of adopting UJ Series

- 1 The high-power irradiation reduces the curing time (takt time).
- 2 The temperature feedback control keeps the UV intensity constant, stabilizing the finish quality.
- 3 The simple UV measuring function automates the irradiation intensity calibrations.\*
- 4 Low-temperature curing protects molded objects from thermal distortion, improving the bonding accuracy.
- 5 A variety of combinations of the LED head and lens provide irradiation conditions ideal for the desired purpose.

\* Only when a UV sensor (option) is connected



#### Advantages of adopting UJ Series

- 1 Low-temperature curing protects molded objects from thermal distortion, improving the bonding accuracy.
- 2 The simple UV measuring function automates the irradiation intensity calibrations.\*
- 3 The high-power irradiation reduces the curing time (takt time).
- 4 The programmed irradiation enables individual UV irradiation by each LED head.
- 5 The temperature feedback control keeps the UV intensity constant, stabilizing the finish quality.
- 6 The lower power consumption contributes to a reduction of CO<sub>2</sub> emissions.

\* Only when a UV sensor (option) is connected

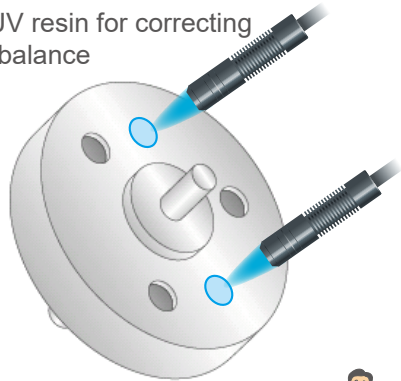


## Motors

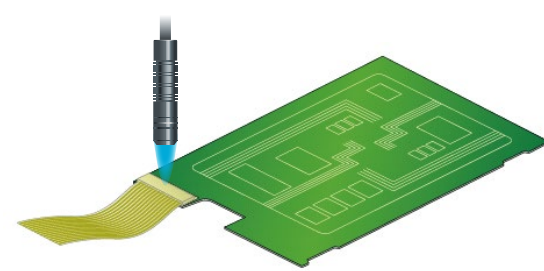
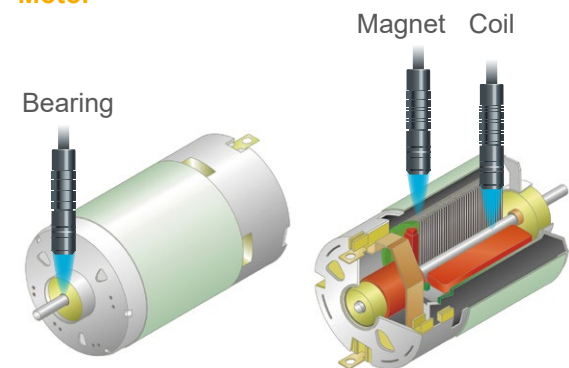
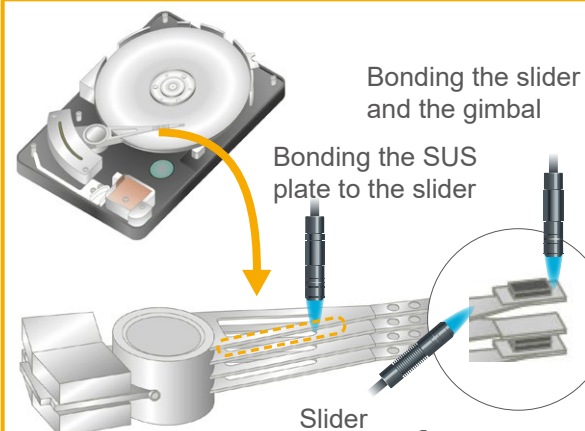
## Application Guide

**1 Correcting/adjusting motor stator rotation balance****Motor**

Curing UV resin for correcting rotation balance

**2 Moisture-proof coating and migration prevention of soldered joints between motor boards and lead wires****Motor board**

Moisture-proof coating on the joint between the board and lead wire

**3 Bonding motor parts****Motor****4 Fixing HDD actuator parts****Advantages of adopting UJ Series**

- 1 The high-power irradiation reduces the curing time (takt time).
- 2 The simple UV measuring function automates the irradiation intensity calibrations.\*
- 3 The temperature feedback control keeps the UV intensity constant, stabilizing the finish quality.
- 4 The lower power consumption contributes to a reduction of CO<sub>2</sub> emissions.

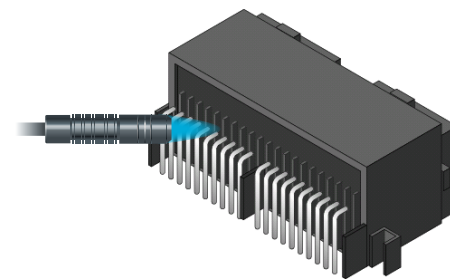
\* Only when a UV sensor (option) is connected

## Automotive parts

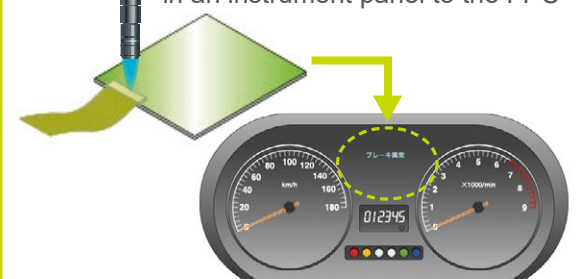
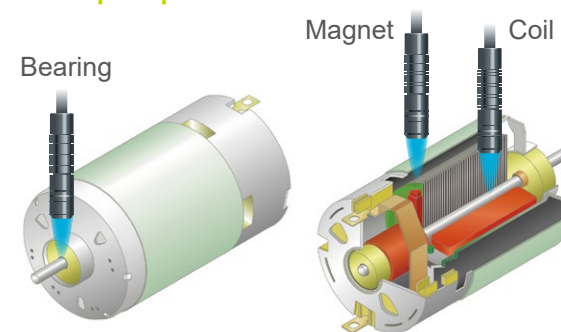
## Application Guide

**1 Bonding and protective coating of automotive connector pins****Connector**

Preventing the pins from being removed

**2 Bonding LCD boards to FPCs****LCD for a monitor in an instrument panel**

Bonding the LCD board for a monitor in an instrument panel to the FPC

**3 Bonding motor parts for wipers/power windows****Bonding motor parts for wipers/power windows****4 Lighting for inspections by machine vision****Instrument panel**

Lighting for detection of UV-sensitive resin

**Advantages of adopting UJ Series**

- 1 The high-power irradiation reduces the curing time (takt time).
- 2 The fan-less structure eliminates the need for measures against vibrations or dust, reducing the costs.
- 3 The simple UV measuring function automates the irradiation intensity calibrations.\*
- 4 The temperature feedback control keeps the UV intensity constant, stabilizing the finish quality.
- 5 The use of Aicure as a light source for inspection allows the reliable detection of UV-sensitive resin.
- 6 The long life of the LED reduces the required labor and running costs for replacing lamps.

\* Only when a UV sensor (option) is connected

# Printing/Marking

## Application Guide

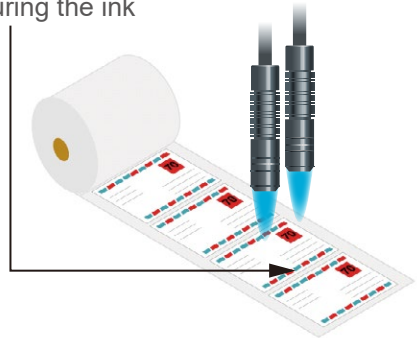


1

### Curing ink on labels/stickers

#### Label/sticker printer

Curing the ink



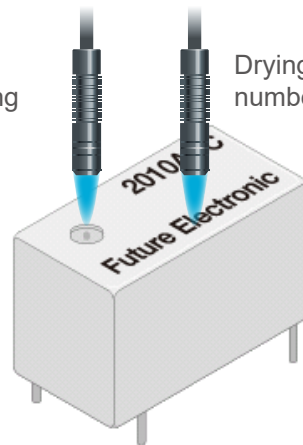
2

### Curing printing ink on electronic components

#### Relay

Sealing degassing holes

Drying the part/lot number printing ink



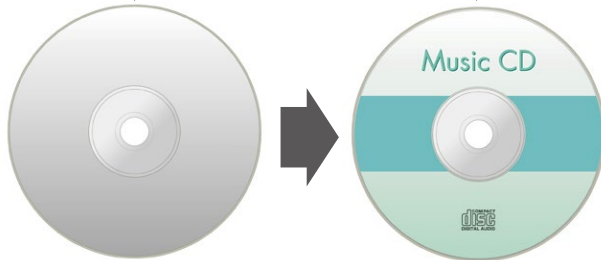
3

### Printing and curing CD/DVD

#### CD/DVD

Coating the CD/DVD surface

Printing



# Electronic components

## Application Guide



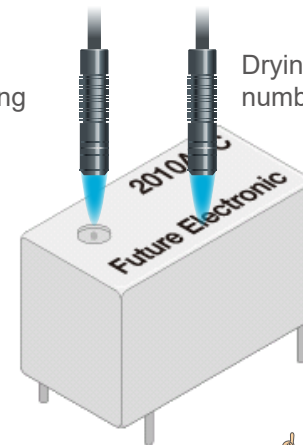
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### Curing printing ink on electronic components

#### Relay

Sealing degassing holes

Drying the part/lot number printing ink

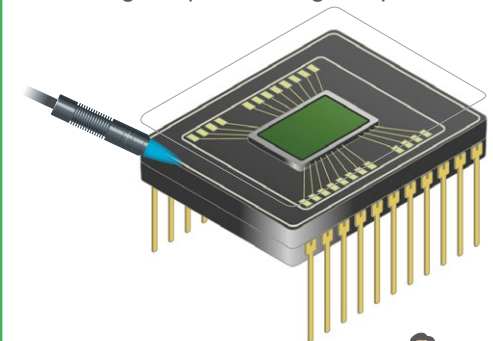


2

### Bonding CCD protective glass plates

#### CCD

Bonding the protective glass plate

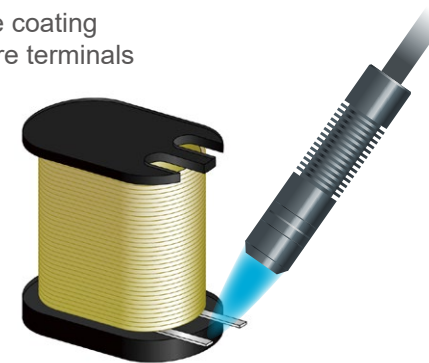


3

### Moisture-proof coating on coil wires

#### Coil wire terminals

Protective coating on coil wire terminals



4

### Bonding protective films

#### Pressure sensor/timer/counter

Bonding a protective film to the body



### Advantages of adopting UJ Series

- ① The long life of the LED reduces the required labor and running costs for replacing lamps.
- ② The simple UV measuring function automates the irradiation intensity calibrations.\*
- ③ Low-temperature curing protects molded objects from thermal distortion, improving the bonding accuracy.

\* Only when a UV sensor (option) is connected



### Advantages of adopting UJ Series

- ① The high-power irradiation reduces the curing time (takt time).
- ② The temperature feedback control keeps the UV intensity constant, stabilizing the finish quality.
- ③ The simple UV measuring function automates the irradiation intensity calibrations.\*
- ④ Low-temperature curing protects molded objects from thermal distortion, improving the bonding accuracy.
- ⑤ A variety of combinations of the LED head and lens provide irradiation conditions ideal for the desired purpose.

\* Only when a UV sensor (option) is connected



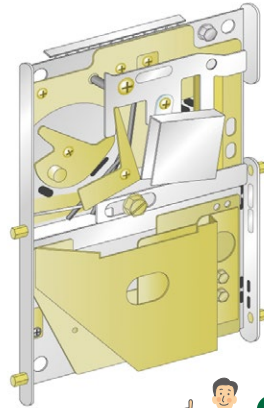
## Others

1

## Bonding mechanical parts

## Mechanical unit of a coin discriminator

Bonding the metal parts



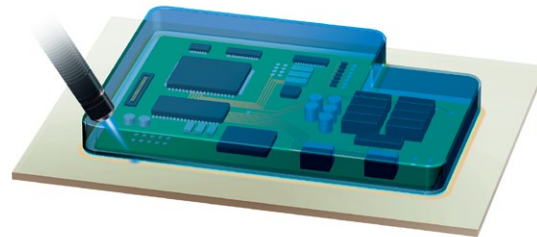
1 2 3 4

2

## Bonding protective covers

## Electronic circuit board

Bonding the protective cover to the board



1 2 3

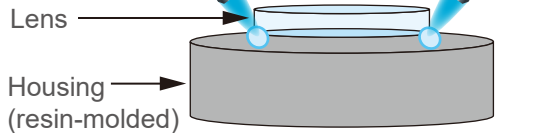
3

## Bonding security camera lenses

## Security camera unit



Bonding the lens to the housing (resin-molded)



1 2 3 4



## Advantages of adopting UJ Series

- Low-temperature curing protects molded objects from thermal distortion, improving the bonding accuracy.
- The long life of the LED reduces the required labor and running costs for replacing lamps.
- The simple UV measuring function automates the irradiation intensity calibrations.\*
- The fan-less structure eliminates the need for measures against vibrations or dust, reducing the costs.

\* Only when a UV sensor (option) is connected

## Wide variation Product Lineup

## Controllers

UJ30 controller  
ANUJ3000

- Up to four heads can be connected.
- With an AC adapter (ANUJ6802)

UJ35 controller  
ANUJ3500

- Up to four heads can be connected.
- With an AC adapter (ANUJ6802)
- Compatible with a UV sensor (ANUJ3800)

UV sensor  
ANUJ3800UV sensor for UJ35 / UP50  
(includes 2 m 6.562 ft ANUJ38102 cable)UV sensor extension cable  
ANUJ38110 (10 m 32.808 ft)  
ANUJ38102 (2 m 6.562 ft)UV sensor connection cable  
(ANUJ38102 is the same cable that ships with the UV sensor)

## Connection cable

## ANUJ62\*\*



Cable length 1.7 m 5.596 ft (Cable diameter:  $\phi$  5.5 mm  $\phi$  0.217 in); ANUJ6220  
Cable length 3 m 9.843 ft (Cable diameter:  $\phi$  5.5 mm  $\phi$  0.217 in); ANUJ6230  
Cable length 5 m 16.404 ft (Cable diameter:  $\phi$  7.6 mm  $\phi$  0.299 in); ANUJ6250  
Cable length 7 m 22.966 ft (Cable diameter:  $\phi$  7.6 mm  $\phi$  0.299 in); ANUJ6270  
Cable length 10 m 32.808 ft (Cable diameter:  $\phi$  7.6 mm  $\phi$  0.299 in); ANUJ6200

(Note 1)  
Heads & CablesHigh-output head 365 nm  
ANUJ6186

- $\phi$  12  $\times$  50 mm  $\phi$  0.472  $\times$  1.969 in
- Cable length 0.2 m 0.656 ft

Standard type 365 nm  
ANUJ6180

- $\phi$  12  $\times$  50 mm  $\phi$  0.472  $\times$  1.969 in
- Cable length 0.2 m 0.656 ft

High-output head 385 nm  
ANUJ6188

- $\phi$  12  $\times$  50 mm  $\phi$  0.472  $\times$  1.969 in
- Cable length 0.2 m 0.656 ft

Standard type 385 nm  
ANUJ6184

- $\phi$  12  $\times$  50 mm  $\phi$  0.472  $\times$  1.969 in
- Cable length 0.2 m 0.656 ft

High-output head 405 nm  
ANUJ6189

- $\phi$  12  $\times$  50 mm  $\phi$  0.472  $\times$  1.969 in
- Cable length 0.2 m 0.656 ft

Standard type 405 nm  
ANUJ6187

- $\phi$  12  $\times$  50 mm  $\phi$  0.472  $\times$  1.969 in
- Cable length 0.2 m 0.656 ft

## Lenses

Standard lens  
ANUJ642\*

- Circular irradiation
- $\phi$  3 mm 0.118 in: ANUJ6423
- $\phi$  4 mm 0.157 in: ANUJ6424
- $\phi$  6 mm 0.236 in: ANUJ6426
- $\phi$  8 mm 0.315 in: ANUJ6428
- $\phi$  10 mm 0.394 in: ANUJ6420

Side view lens  
ANUJ642\*SV

- Circular irradiation Angled at 90°
- $\phi$  6 mm 0.236 in: ANUJ6426SV
- $\phi$  8 mm 0.315 in: ANUJ6428SV
- $\phi$  10 mm 0.394 in: ANUJ6420SV

Cylindrical lens  
ANUJ64\*\*S

- Elliptical irradiation
- R5 : ANUJ6450S
- R7.5: ANUJ6475S

Rod lens  
ANUJ64\*7L (For standard head)

- Small diameter circular irradiation
- $\phi$  4 mm 0.157 in: ANUJ6447L
- $\phi$  6 mm 0.236 in: ANUJ6467L

\*Rod lens combined with ANUJ6186, ANUJ6188 and ANUJ6189 are treated as custom-made products. Please consult us.

## Options

AC adapter (Note 2)  
ANUJ6802100 to 240 V AC adapter supplied with the controller unit  
With a 100 V AC power cable200 V AC power cable  
ANUJ6803200 V AC power cable for  
ANUJ6802 (Note 3)Mounting bracket  
ANUJ6804Head mounting bracket  
Material: AluminumProtective glass  
ANUJ6430

For head protection if lenses are not used.

Notes: 1) The head does not come with a lens.  
2) The ANUJ6802 AC adapter is supplied with the controller unit. The ANUJ6802 AC adapter is compatible with 100 to 240 V AC; however, the primary-side power cable is compatible with 100 V AC only. For use in a 200 V AC region, purchase the ANUJ6803 primary-side power cable (for 200 V AC) separately.  
3) For China only. Primary-side A-type plug. (Since this product is not PSE Mark compliant, it cannot be connected directly to a lamp line in Japan.)

## Specifications

## Controllers

Controller Product type	UJ30 (Standard model)	UJ35 (High performance model)
Controller Part No.	ANUJ3000	ANUJ3500
Connectable heads	1 to 4 heads	
Connectable UV sensor	Not compatible	Compatible
UV irradiation	One pattern irradiation in simple mode The heads are either collectively or individually controlled.	One pattern in simple mode and programmed pattern irradiation (up to 7 patterns with up to 10 steps) The heads are either collectively or individually controlled.
Pattern switching	None (1 type)	Switchable (8 types)
Intensity / irradiation control	Digital intensity and irradiation control manual or timer control (0.1 to 99.9, 100 to 999 sec.) Auto-tuning function using the UV sensor (for UJ35 only) Specifications of UV sensor: [Temperature characteristic: $\pm$ 5 % F.S. (+5 to +35 °C 41 to 95 °F) / Repeat accuracy: $\pm$ 1 % (25 °C 77 °F)]	
Setting/Operation	Setting by the operation switches and power-on/off by a key switch	Setting by the operation switches, power-on/off by a key switch and RS232C (UJ35 setup tool)
Display	7-segment display	
Cooling system	Natural cooling (without a fan)	
External control	Method	Parallel I/O
	External input	Individual irradiation input, irradiation stop input, interlock, full-irradiation input, pattern switching (for UJ35 only)
	External output	READY signal, error signal, alarm output, BUSY output (each head separately), +5 V output (for indicator)
Operating voltage	With AC adapter: 100 - 240 V AC ( $\pm$ 10 %) 50 / 60 Hz 60 VA (at 100 V AC)	
Ambient temperature / humidity range	0 to +35 °C 32 to 95 °F / 30 to 85 % RH (no condensation)	
Storage temperature / humidity range	-10 to +60 °C 14 to 140 °F / 30 to 85 % RH (no condensation)	
Accessories	AC adapter and Key	
Weight	1,180 g approx. (Controller: 940 g approx., AC adapter: 240 g approx.) 1,200 g approx. (Controller: 960 g approx., AC adapter: 240 g approx.)	

## Heads

365 nm wavelength high-output head	Head model No.		ANUJ6186							
	Compatible lens	Spot diameter Lens model No.	$\phi$ 3 mm $\phi$ 0.118 in	$\phi$ 4 mm $\phi$ 0.157 in	$\phi$ 6 mm $\phi$ 0.236 in	$\phi$ 8 mm $\phi$ 0.315 in	$\phi$ 10 mm $\phi$ 0.394 in	Protective glass	ANUJ6423	ANUJ6430
365 nm wavelength standard type	UV intensity (mW/cm <sup>2</sup> ) <sup>(1)</sup>		17,200	14,940	7,560	4,450	1,360	530		
	Irradiation distance		8 mm 0.315 in	10 mm 0.394 in	15 mm 0.591 in	20 mm 0.787 in	30 mm 1.181 in	10 mm 0.394 in		
	Head model No.		ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	ANUJ6430		
385 nm wavelength high-output head	Head model No.		ANUJ6188							
	Compatible lens	Spot diameter Lens model No.	$\phi$ 3 mm $\phi$ 0.118 in	$\phi$ 4 mm $\phi$ 0.157 in	$\phi$ 6 mm $\phi$ 0.236 in	$\phi$ 8 mm $\phi$ 0.315 in	$\phi$ 10 mm $\phi$ 0.394 in	Protective glass	ANUJ6423	ANUJ6430
385 nm wavelength standard type	UV intensity (mW/cm <sup>2</sup> ) <sup>(1)</sup>		19,500	16,920	8,680	4,750	1,400	580		
	Irradiation distance		8 mm 0.315 in	10 mm 0.394 in	15 mm 0.591 in	20 mm 0.787 in	30 mm 1.181 in	10 mm 0.394 in		
	Head model No.		ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	ANUJ6430		
405 nm wavelength high-output head	Head model No.		ANUJ6189							
	Compatible lens	Spot diameter Lens model No.	$\phi$ 3 mm $\phi$ 0.118 in	$\phi$ 4 mm $\phi$ 0.157 in	$\phi$ 6 mm $\phi$ 0.236 in	$\phi$ 8 mm $\phi$ 0.315 in	$\phi$ 10 mm $\phi$ 0.394 in	Protective glass	ANUJ6423	ANUJ6430
405 nm wavelength standard type	UV intensity (mW/cm <sup>2</sup> ) <sup>(1)</sup>		20,900	17,800	9,190	5,450	1,790	810		
	Irradiation distance		8 mm 0.315 in	10 mm 0.394 in	15 mm 0.591 in	20 mm 0.787 in	30 mm 1.181 in	10 mm 0.394 in		
	Head model No.		ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	ANUJ6430		

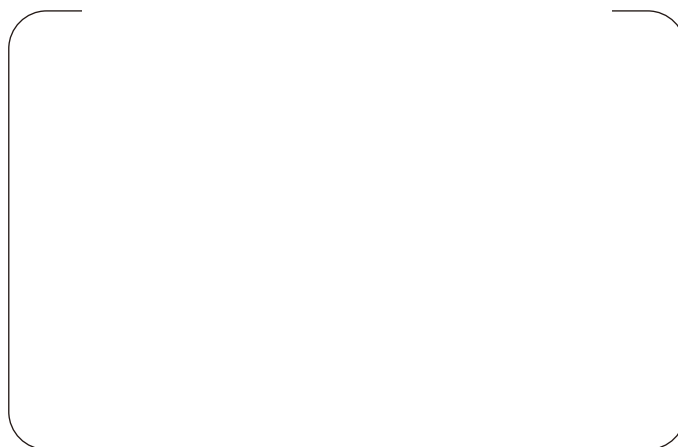
Notes: 1) The values were measured using a UJ30 / UJ35 illuminometer with  $\phi$  1 mm  $\phi$  0.039 in sensor hole when the high-output heads were fixed to the attachment, the ambient temperature was maintained at 25 °C 77 °F by the UJ30 / UJ35, and they were turned on with 100% output (initial value: based on Panasonic's reference measurement method).  
2) It is recommended that protective glass (ANUJ6430) be used to protect the head-side lens from contamination when the high-output head is used without a lens. For further information about protective glass, contact our sales office.  
3) The value is not a guaranteed value.

# Glossary



<b>UV curing</b>	A technology for bonding, fixing, painting, printing, coating, etc. using a "UV-curable resin", which instantly hardens from a liquid to a solid in response to ultraviolet rays (UV)
<b>UV sensor</b>	An ultraviolet ray sensor, which is designed to be connected to the Aicure controller to measure the UV irradiation intensity and allow the intensity to be displayed and set on the controller.
<b>Temperature feedback</b>	Our unique system to convert (give feedback of) the light source output into the input based on the LED temperature measured by temperature sensors embedded in the LED heads
<b>Cylindrical lens</b>	A lens having a cylindrical shape ideal for applications that require UV irradiation of ellipse areas.
<b>Auto-tuning</b>	Automatically adjusting a set value to a target value
<b>Fiber</b>	An optical fiber cable to transmit optical information A light guide for UV irradiation
<b>Thermal distortion</b>	Deformation of plastic materials due to a temperature rise caused by an infrared ray, included in the light emitted by UV curing systems, in particular of the lamp type
<b>Curing distortion</b>	Distortion of UV-curable resin caused when it hardens
<b>Takt time</b>	Time required for finishing operations for manufacturing a product expressed in hours/product, which is set to implement operations in a uniform pace in production lines
<b>Workpiece</b>	A product or part in process, such as an UV irradiation object

<b>Tacking</b>	Adherence of the bonding surface of a material Adhesiveness
<b>Quartz fiber</b>	An optical fiber with a quartz glass core, which has higher optical transparency than general glass fibers, allowing the accurate transmission of optical information over a long distance
<b>Module (Lens module)</b>	A part having a group of functions. Lens module: A lens unit part for a mobile phone or a digital camera
<b>OLB (OLB reinforcement)</b>	Stands for outer lead bonding, which is a method of bonding/connection of a package with its lead wires exposed. UV resin is used for reinforcement purposes to improve OLB reliability.
<b>CE</b>	A mark that can only be indicated on products that conform to the safety requirements specified by the applicable directives of the Council of the European Union (EC Directives) and that meet the standards of all EU member nations
<b>RoHS</b>	RoHS Directive, which is the EU restriction of the use of certain hazardous substances in electrical and electronic equipment



Please contact .....

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