

Panasonic

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UV CURING SYSTEM AICURE UJ30/35



Performance 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 stable UV irradiation meets the industry's highest class of intensity. In addition to its user-friendliness energy efficiency Aicure is environmentally friendly. These models have a high irradiation intensity power up to 17200mW/cm² (wavelength: 365nm) or 19500mW/cm² (wavelength: 385nm) and a 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

Intuitive operation



Two 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.

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 collective or individual control.

Compact size

80mm in width, 125mm in height, and 140mm in depth. The Aicure UJ30/35 could fit into any small space.

Smallest in class

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.

Only Panasonic

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.

Aicure UJ35 software*

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

Free software

Global 3-year warranty

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

Only Panasonic

* Download available at <http://www.panasonic-electric-works.com/peweu/en/html/25832.php>

Intuitive operation

Quick & easy setup immediately after installation

■ Clear front panel arrangement

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

Only four steps required for basic settings:

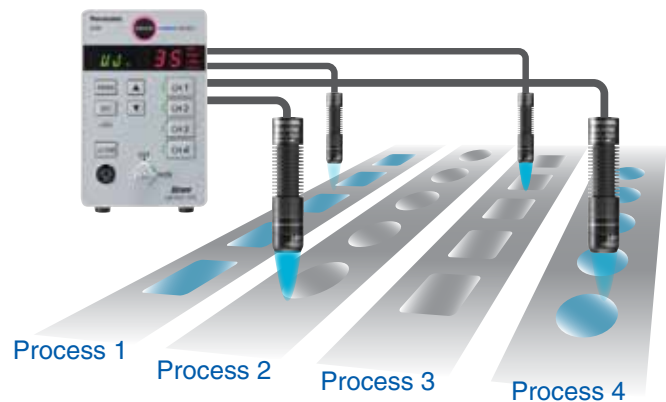
1. Choose LED head (channel 1 to 4).
2. Set irradiation intensity (%).
3. Set irradiation time.
4. Start emission.



■ Four individually controllable heads

The irradiation power and time can be individually controlled.

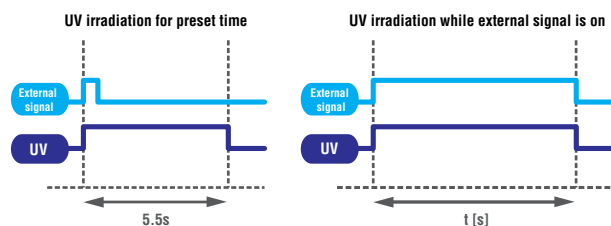
With a conventional lamp type model, one process requires one irradiation unit. With UJ30/35, one unit can be used for up to four processes due to its four individually-controllable LED heads. The UJ30/35 will issue an alarm if any of the LED heads needs replacing or overheats.



■ 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. Thanks to the digital I/O interface with detachable terminal blocks, it is easy to connect the UJ30/35 to an external PLC or PC. The UJ35 additionally offers an RS232C port.



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.

* Download available at <http://www.panasonic-electric-works.com/peweu/en/html/25832.php>

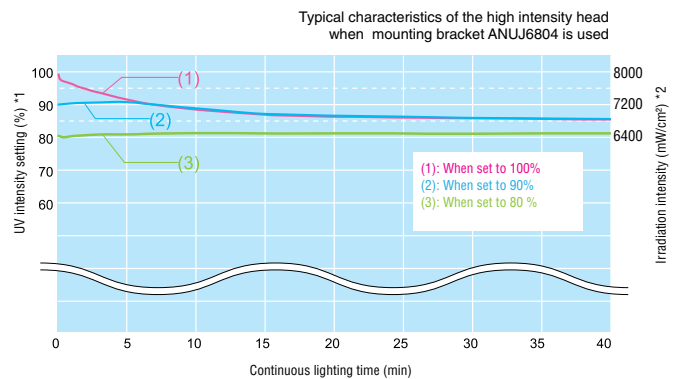
Stable irradiation

Strict quality control

■ Prevention of resin curing defects and bonding failures: temperature control

±3% or better UV irradiation accuracy.

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

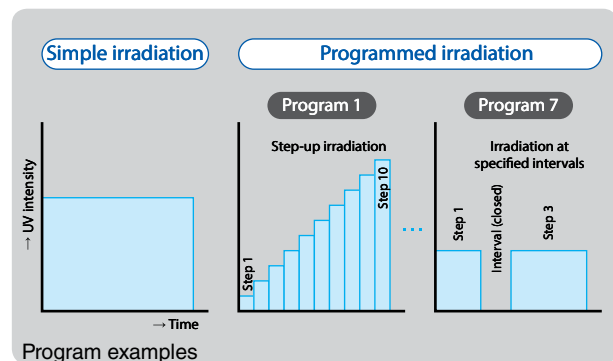


*1: "100" indicates the 100% intensity setting.
*2: When equipped with the ANUJ6324 lens

■ 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 can be programmed for each of the four LED heads. You can choose between the step-up mode, in which the intensity is changed over time, and the interval mode, in which irradiation is performed at specified intervals.



■ Significantly higher reliability for bonding and fixing

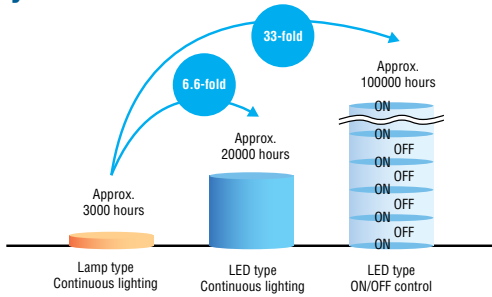
New slim UV sensor port (UJ35).

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 Aicure UJ30/35 LED head is equipped with a high-power UV LED. This means the heads enjoy a lifetime of 20000 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 60V A (at 100V AC) or lower even with all four heads turned on, contributing to CO₂ reduction.

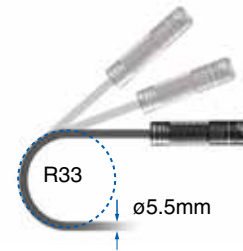
Since less heat is generated than by lamp type systems, cooling, for example with an air conditioner, is not necessary.

■ 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 and permit a bending radius of 33mm, and can be bent 10000000 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.

Aicure UJ30/35 employs no electromechanical components. Even cooling is realized without a fan, making the device 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.

The models UJ30 and UJ35 comply with the RoHS Directive, ensuring environmentally safe use. They also have the CE marking.

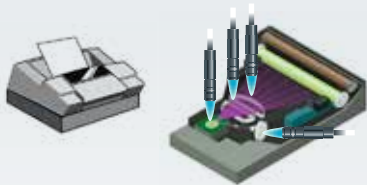
Applications

Digital home appliances

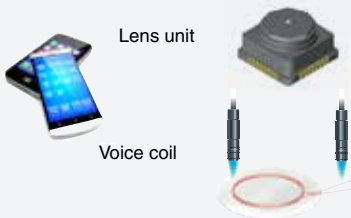
Bonding camera lenses to optical tubes for digital cameras, mobile phones, etc.



Bonding optical parts of printers/copying machines

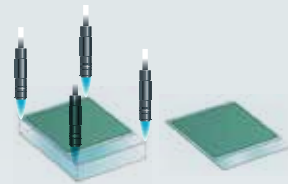


Fixing/bonding precision parts of mobile phones

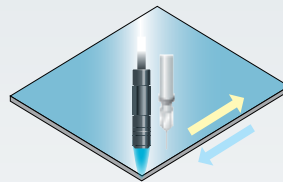


LCD

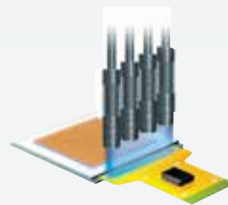
Bonding of film display boards



Bonding/sealing glass substrates for LCD

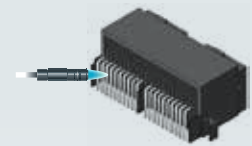


Curing moisture-proof coating on LCD



Automotive parts

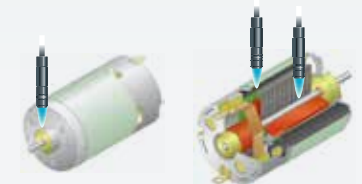
Bonding and protective coating of automotive connector pins



Bonding LCD boards to FPCs



Bonding motor parts for wipers/power windows



Printing/Marking

Curing ink on labels/stickers

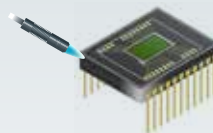


Curing printing ink on electronic components, sealing degassing holes



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

■ LED heads

Types with 365nm and 385nm wavelength are available.

When you are using the standard lens, the length of the LED head with its 50mm is the shortest of its class.

Standard head: 365nm wavelength

ANUJ6180



Standard LED head for irradiation intensity of up to 12500mW/cm².

High intensity head: 365nm wavelength

ANUJ6186



Higher irradiation power for shorter cycle times with a maximum irradiation intensity of 17200mW/cm².

Standard head: 385nm wavelength

ANUJ6184



385nm standard LED head with an irradiation intensity of up to 14700mW/cm².

High intensity head: 385nm wavelength

ANUJ6188



385nm LED head with a higher irradiation power to achieve shorter cycle times with a maximum irradiation intensity of 19500mW/cm².

Standard head: 405nm wavelength

ANUJ6187



405nm standard LED head with an irradiation intensity of up to 15500mW/cm².

High intensity head: 405nm wavelength

ANUJ6189



405nm LED head with a higher irradiation power to achieve shorter cycle times with a maximum irradiation intensity of 20900mW/cm².

Special types

LED head with connection cable

ANUJ6172



365nm LED head with an irradiation intensity of up to 9300mW/cm² and 1.9m connection cable.

LED head: 120mm length

ANUJ6180T01



365nm LED head with 120mm length and a maximum irradiation intensity of 12500mW/cm².

■ Lenses

Various options for different application areas of bonding through UV curing.

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 (ø 5mm)
ANUJ6475S (ø 7.5mm)



For narrow point irradiation or fine bonding

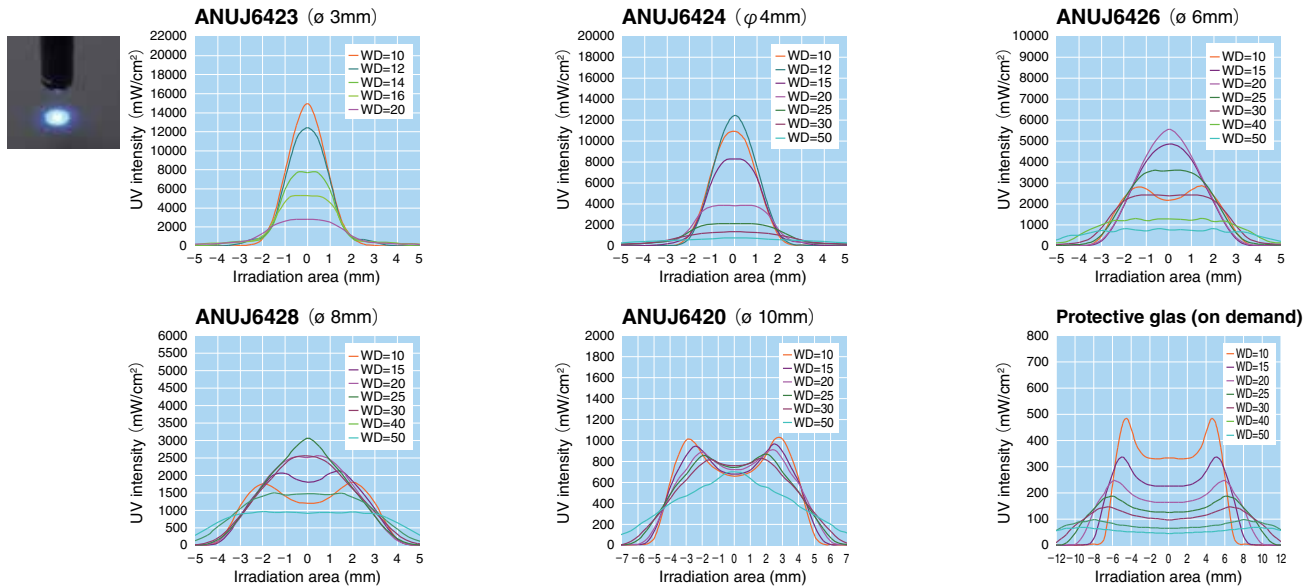
Rod lens

(Circular irradiation, small diameter)
ANUJ6447L (ø 4mm)
ANUJ6467L (ø 6mm)

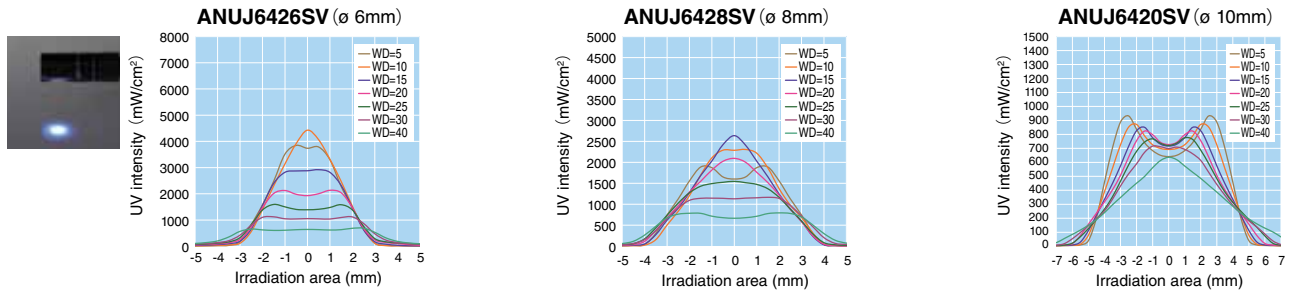


Intensity profiles for LED head ANUJ6180 (12500mW/cm², 365nm)

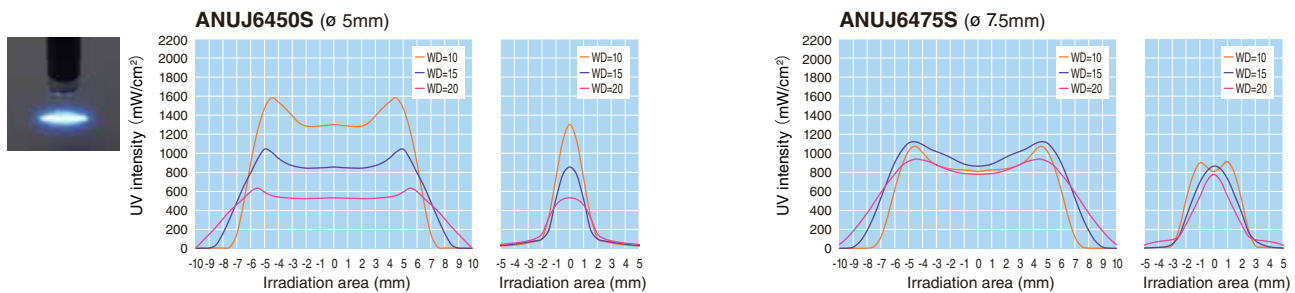
Standard lens



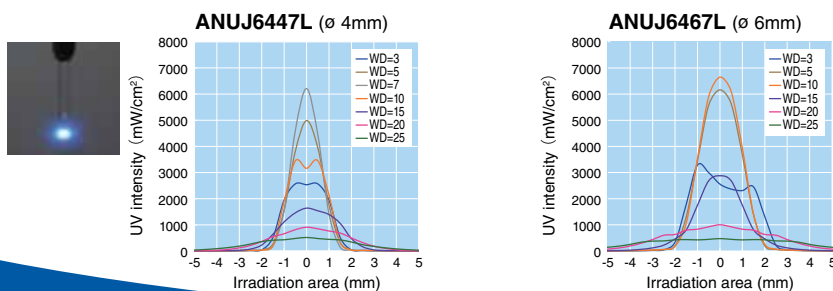
Side view lens



Cylindrical lens



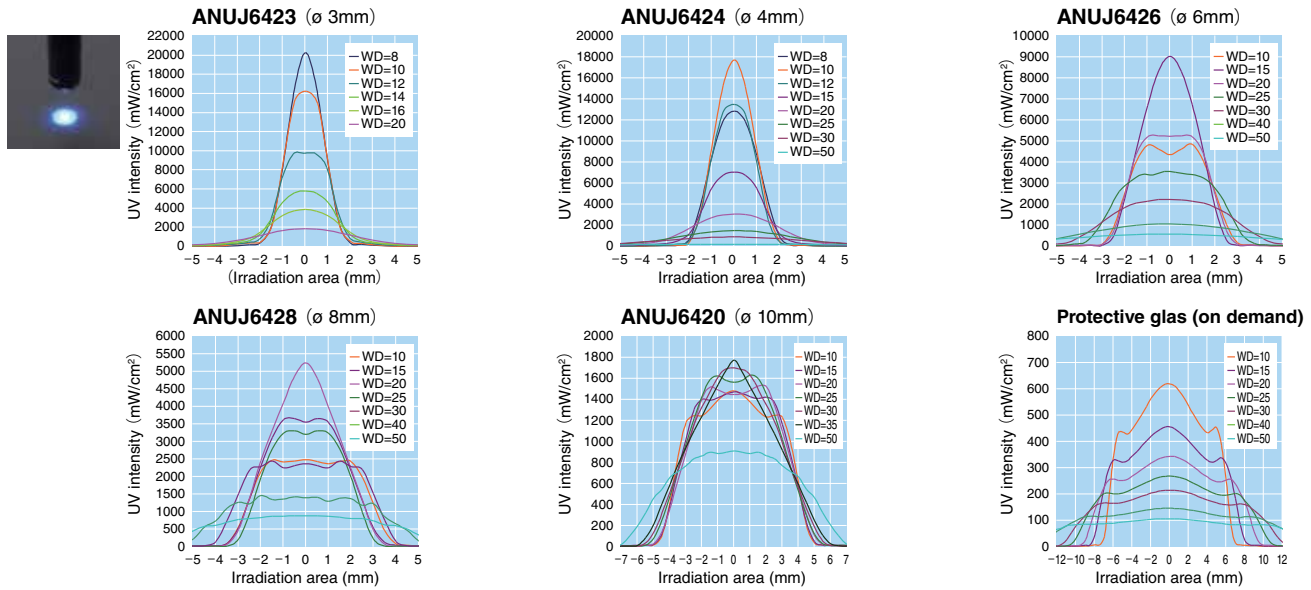
Rod lens



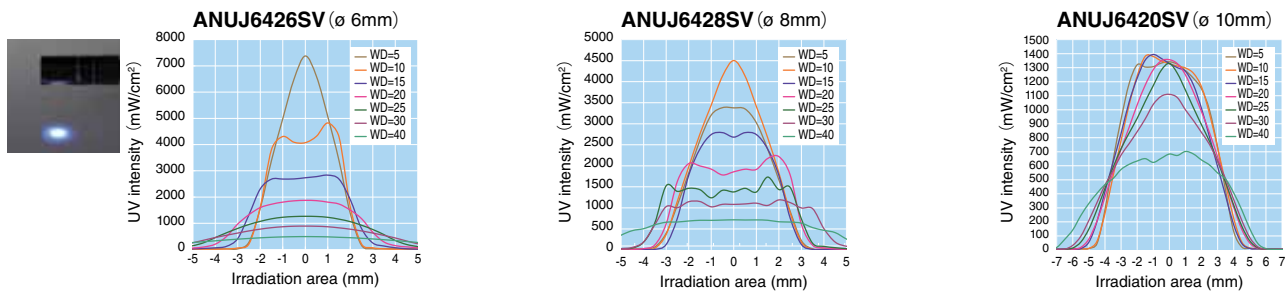
Further intensity profiles for LEDs available upon request.

Intensity profiles for LED head ANUJ6186 (17200mW/cm², 365nm)

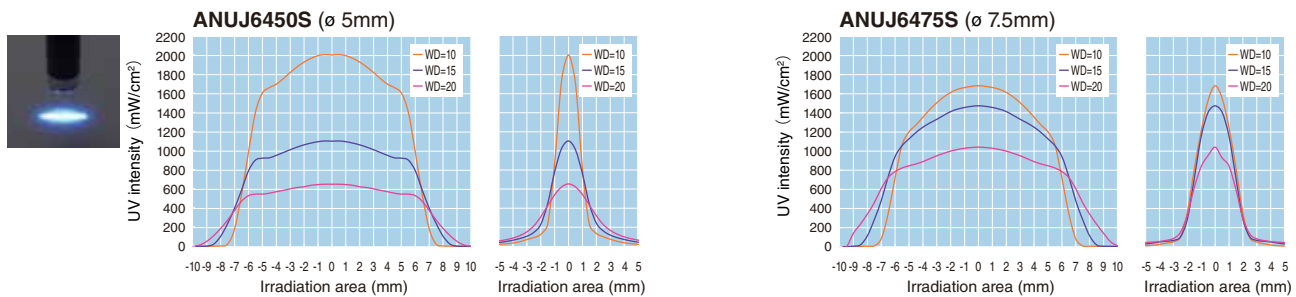
Standard lens



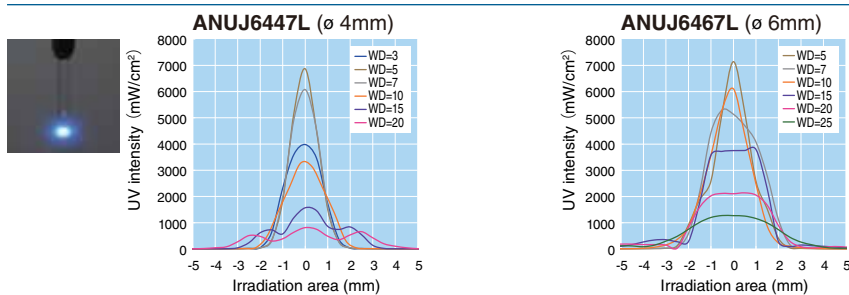
Side view lens



Cylindrical lens

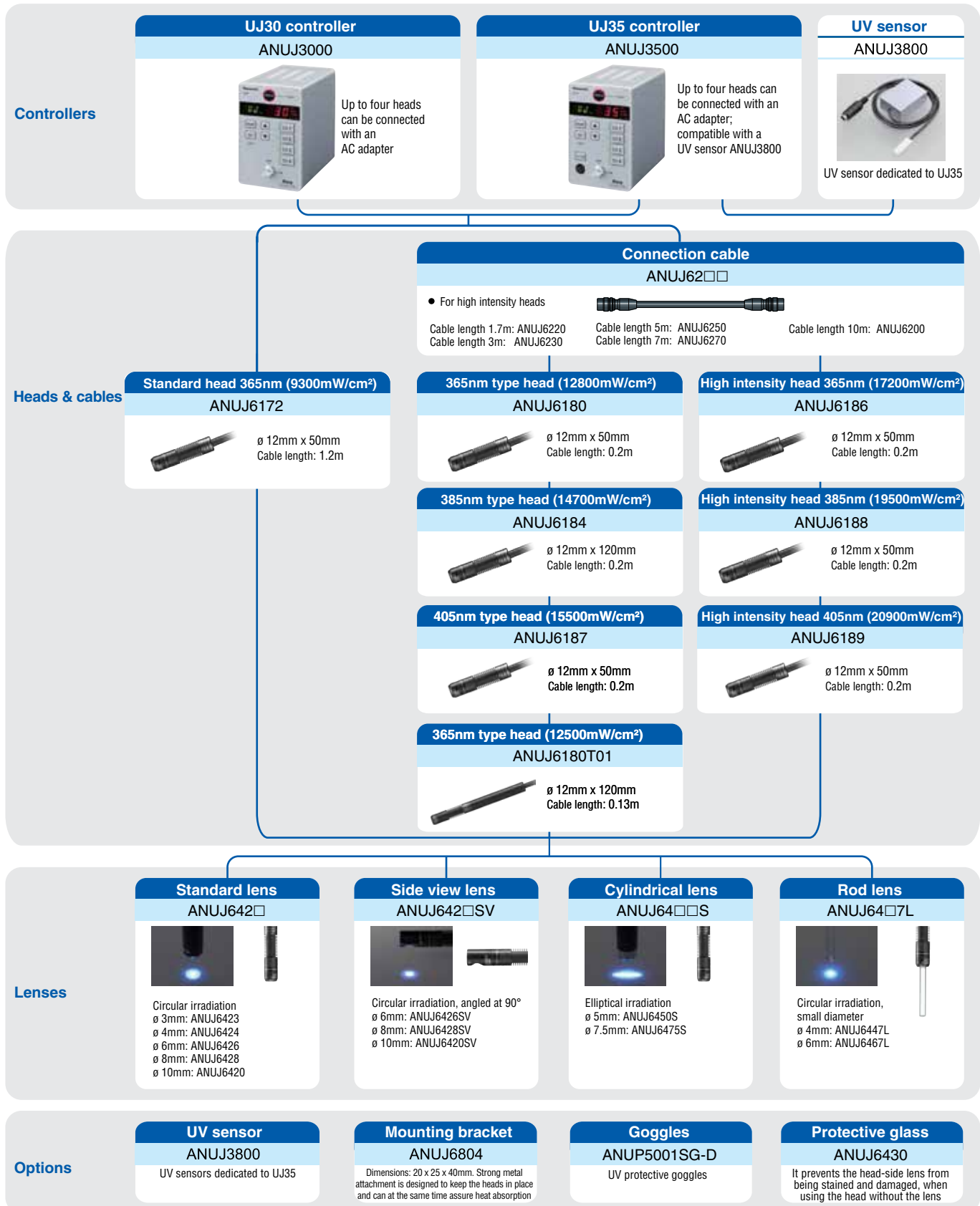


Rod lens



Further intensity profiles for LEDs available upon request.

Overview



■ Technical specifications

Controllers

		UJ30 (standard model)	UJ35 (high performance model)
Product No.		ANUJ3000	ANUJ3500
Connectable LED heads		1 to 4 heads	
UV sensor		Not compatible	Compatible
UV irradiation		One pattern in simple mode; the heads are either collectively or individually controlled	8 patterns (1 in simple mode and up to 7 patterns with up to 10 steps); the heads are either collectively or individually controlled
Pattern switching		None (1 pattern)	Switchable (8 patterns)
Intensity/irradiation control		Digital intensity and irradiation control, manual/timer control (0.1 to 99.9, 100 to 999s), calibration function using the optional UV sensor (UJ35 only)	
Setting/Operation		Switches at front panel and power-on/off by a key switch	
		–	via RS232C (Software AicureUJ35)
Display		7-segment display	
Cooling method		Natural cooling (no fans)	
External control	Interface	Digital I/O	Digital I/O, RS232C
	External input	Individual/all heads, stop, interlock, pattern switching	
	External output	READY signal, error signal, warning signal, BUSY signal (each head separately) and +5V output	
Operating voltage		Supplied AC adapter: 100 to 240VAC (±10%), 50/60Hz, 60VA (at 100 VAC)	
Temperature and humidity	Operation	0 to +35°C, 30 to 85% RH (no condensation at 25°C)	
	Storage	-10 to +60°C, 30 to 85% RH (no condensation at 25°C)	
Supplied accessories		AC adapter, key, operating instructions	
Weight		Approx. 940g (excl. AC adapter)	Approx. 960g (excl. AC adapter)

LED heads (standard)

LED head 365nm (12500mW/cm ²)							
Product No.	ANUJ6180 (dimensions: ø 12mmx50mm)						
Cable length	0.2 m						
Lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm	Protective glass
	No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	
Irradiation intensity (mW/cm ²) *1	12500	10600	4720	2500	580	300	
Work distance	10mm	12mm	20mm	25mm	30mm	10mm	

LED head 385nm (14700mW/cm ²)							
Product No.	ANUJ6184 (dimensions: ø 12mmx50mm)						
Cable length	0.2 m						
Lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm	Protective glass
	No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	
Irradiation intensity (mW/cm ²) *1	14700	11700	5800	2790	590	1790	
Work distance	10mm	12mm	20mm	25mm	30mm	30mm	

LED head 405nm (15500mW/cm ²)							
Product No.	ANUJ6187 (dimensions: ø 12mmx50mm)						
Cable length	0.2 m						
Standard lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm	Protective glass
	No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	
Irradiation intensity (mW/cm ²) *1	15500	12600	5730	3150	890	440	
Work distance	10mm	12mm	20mm	25mm	30mm	10mm	

LED heads (special types)

LED head 365nm (12500mW/cm ² / long housing)						
Product No.	ANUJ6180T01 (dimensions: ø 12mmx120mm)					
Cable length	0.13 m					
Standard lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
	Product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
Irradiation intensity (mW/cm ²) *1	12500	10600	4720	2500	580	
Work distance	10mm	12mm	20mm	25mm	30mm	

*1 With mounting bracket, 25°C ambient temperature and 100% irradiation intensity.

Common specifications of LED heads

Light source	Class 3 LED product	
Life time of LED head	20000 hours (when the temperature of the LED in the head is 60°C or less)	
Ambient temperature and humidity	Operation	+5 to +35°C, 30 to 85% RH (no condensation at 25°C)
	Storage	-10 to +60°C, 30 to 85% RH (no condensation at 25°C)

High intensity head 365nm (17200mW/cm ²)							
Product No.	ANUJ6186 (dimensions: ø 12mmx50mm)						
Cable length	0.2 m						
Lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm	Protective glass
	No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	
Irradiation intensity (mW/cm ²) *1	17200	14940	7560	4450	1360	530	
Work distance	8mm	10mm	15mm	20mm	30mm	10mm	

High intensity head 385nm (19500mW/cm ²)							
Product No.	ANUJ6188 (dimensions: ø 12mmx50mm)						
Cable length	0.2 m						
Lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm	Protective glass
	No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	
Irradiation intensity (mW/cm ²) *1	19500	16920	8680	4750	1400	580	
Work distance	8mm	10mm	15mm	20mm	30mm	10mm	

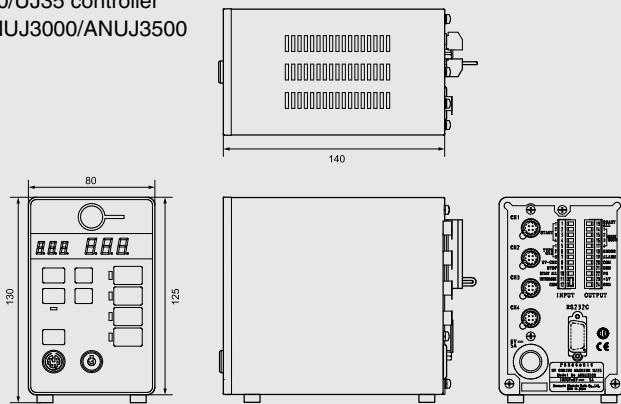
High intensity head 405nm (20900mW/cm ²)							
Product No.	ANUJ6189 (dimensions: ø 12mmx50mm)						
Cable length	0.2 m						
Lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm	Protective glass
	No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420	
Irradiation intensity (mW/cm ²) *1	20900	17800	9190	5450	1790	810	
Work distance	8mm	10mm	15mm	20mm	30mm	10mm	

LED head 365nm (9300mW/cm ² / incl. connection cable)						
Product No.	ANUJ6172 (dimensions: ø 12mmx50mm)					
Cable length	1.9 m					
Lenses	Spot	ø 3mm	ø 4mm	ø 6mm	ø 8mm	ø 10mm
	Product No.	ANUJ6423	ANUJ6424	ANUJ6426	ANUJ6428	ANUJ6420
Irradiation intensity (mW/cm ²) *1	9300	7900	3600	1700	640	
Work distance	10mm	12mm	20mm	25mm	30mm	

Overview

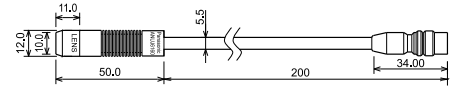
■ Dimensions (mm)

UJ30/UJ35 controller
ANUJ3000/ANUJ3500

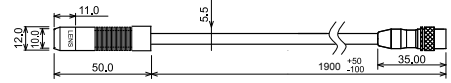


LED head

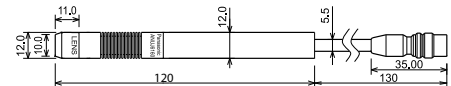
Standard ANUJ6180 / 6184 / 6186 / 6187 / 6188 / 6189



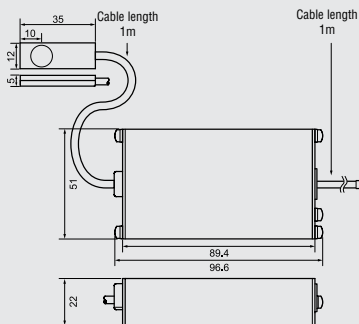
Special model ANUJ6172



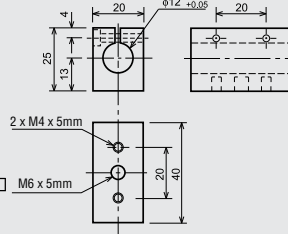
Special model ANUJ6180T01



UV sensor
ANUJ3800

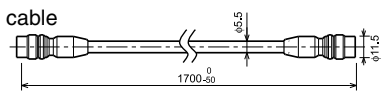


Mounting bracket
ANUJ6804

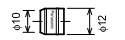


Connection cable

ANUJ6420



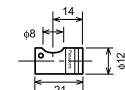
Standard-/cylindrical lens



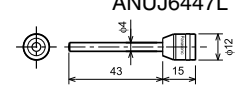
Rod lens ANUJ6467L



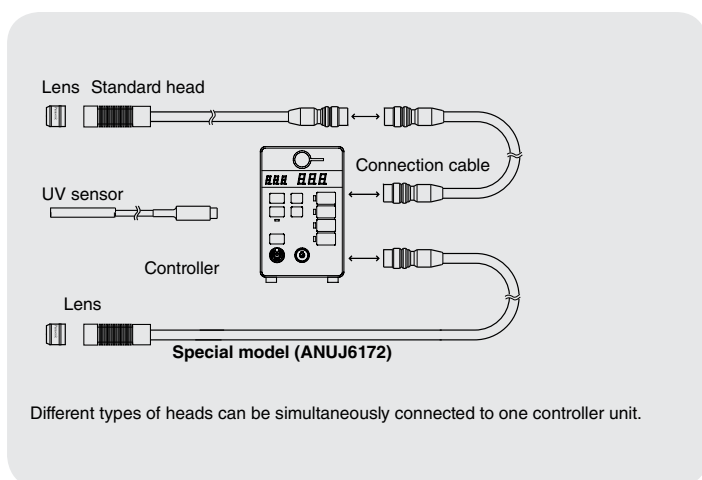
Side view lens



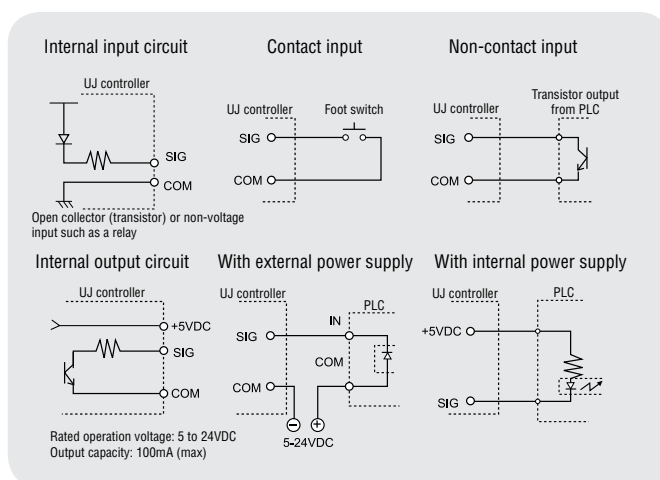
ANUJ6447L



■ Configuration



■ I/O wiring



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: Terminal Nos. 5 to 8 (TYPE Chg1 to 3 and UV-CHECK) are available with UJ35 only. Not connected at UJ30.

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

■ 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.



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