

UV-LED SPOT LIGHT SOURCE

**LIGHTNINGCURE<sup>®</sup>**  
**LC-L1**



"Original easy-to-use design" –How about giving it a try?

**APPLICATIONS**

- UV adhesive curing
- High output UV irradiation

**FEATURES**

- Compact
- High stability and high output
- Low power consumption
- Low cost



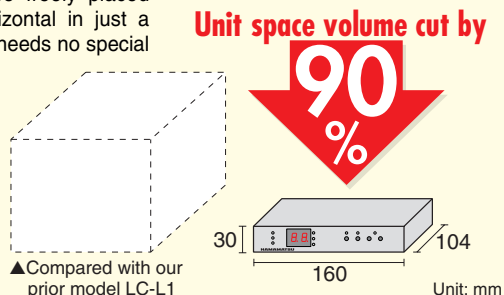
**HAMAMATSU**  
PHOTON IS OUR BUSINESS



# Features

## Compact body easily installs into narrow confined spaces

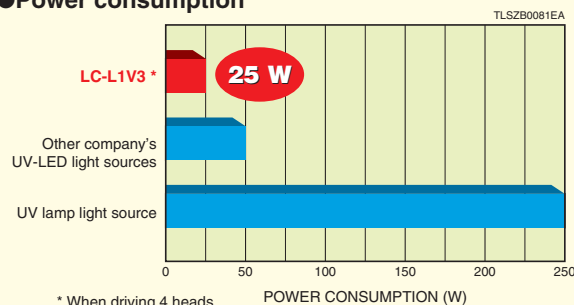
By cutting wasted space to an absolute minimum we came up with a unit that drives 4 heads but is small enough to fit in the palm of your hand! Unit can also be freely placed standing or horizontal in just a tiny space, so it needs no special layout!



## Huge reduction in power consumption

The LC-L1V3 emits high intensity UV beams yet now consumes only half the power of UV-LED light sources made by other companies. These energy savings drastically cut your costs and place a smaller load on the environment. The light source also emits little heat, so less power is needed for air conditioning during production.

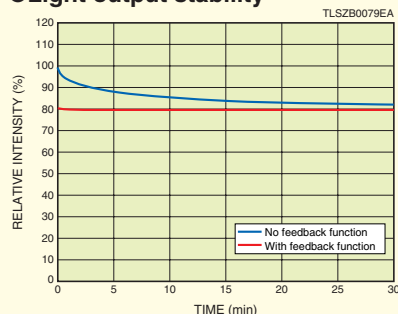
### ● Power consumption



## Further increase in light output stability

Our unique feedback function minimizes drift during initial light emission period and constantly maintains fluctuations in light output within 5% right after light emission starts. Ideal for applications requiring both high accuracy and high quality.

### ● Light output stability



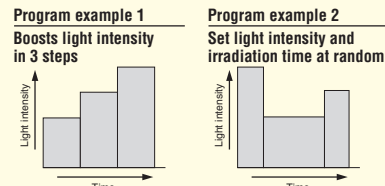
## Prevents operator errors for higher quality and better safety

The LC-L1V3 now has a key locking function designed to lower the risk of faulty entries such as by mistakenly coming in contact with the buttons. This also helps improve operator safety.



## Boost in quality by optimizing irradiation conditions

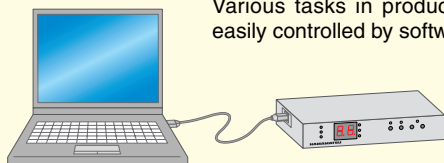
You can program the irradiance and time you need in 3 easy steps. Storing the programs in the unit allows you to irradiate each object under optimal conditions. This will improve product yield of components that require high bonding precision.



The irradiation conditions can be easily changed when processing multiple objects or shifting to another production line, etc.

## PC communication control improves work efficiency

PC communication allows batch control with other devices. Various tasks in production process can be easily controlled by software command.



## SPECIFICATIONS

Parameter	365 nm	385 nm	Unit
Maximum UV irradiance ①	14000	15000	mW/cm <sup>2</sup>
Peak wavelength	365 ± 5	385 ± 5	nm
LED design life	20000		h
Input voltage (DC)	9 ± 0.5		V
Power consumption (Max.) ②	25		W
Cooling method	Air cooling without fan		—
Operating temperature range	+5 to +35		°C
Storage temperature range	-10 to +50		°C
Operating humidity range	20 % to 80 % (no condensation)		—
Storage humidity range	Below 80 % (no condensation)		—
Control method *	Front panel control / external control / communication control		—
Applicable standards	IEC61010-1: 2010		—
	IEC62471: 2006 Risk Group3		
	IEC61326-1: 2005 Group1 ClassA		
Warranty period ③	1 year		—

① With an LED head unit L11921-□10 connected, UV intensity in the emission center was measured a point 10 mm away from the end of the output lens.

② When driving 4 heads ③ The warranty period is 1 year from the date of shipment.

### \* Control description

#### Front panel control

- Manual / programmed irradiation
- Irradiation program setting (light intensity, time, steps)
- Integration time check and reset
- Error signal, change to service life warning time

#### External control

- Manual / programmed irradiation
- Error / "irradiation in progress" signal

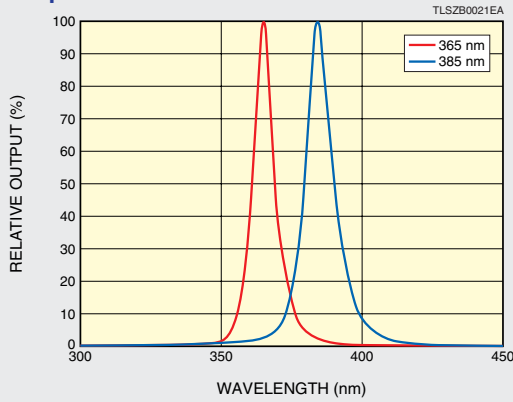
#### Communication control

- Manual / programmed irradiation
- Irradiation program setting (light intensity, time, steps)
- Integration time check and reset
- Error signal

# Lineup

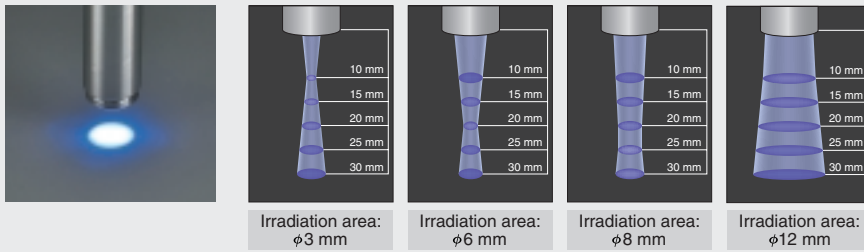
## Wavelength

### Light emission spectrum

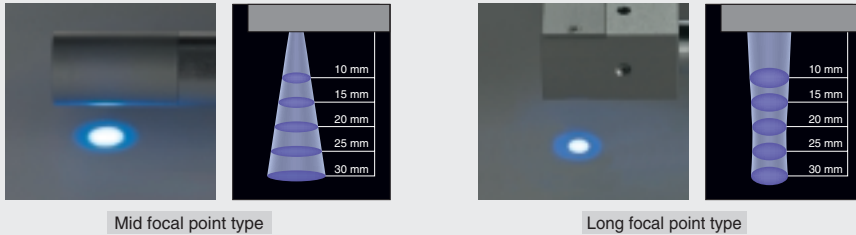


## Irradiation pattern variations

### Standard type



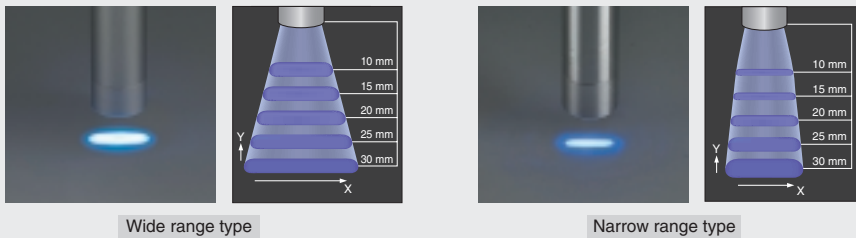
### Right-angle type



LED head installs even in narrow spaces for more placement freedom.

This type has focal point extended longer than type on left.

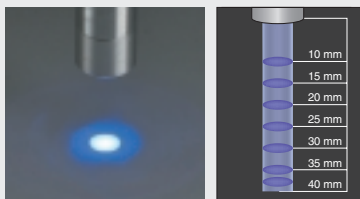
### Linear beam type



Emits light over a wide range in long elliptical area and so is ideal for hardening adhesive on irregular shaped workpieces or at multiple locations.

Light beam is narrower than type on left and so has higher irradiance.

### Collimator type

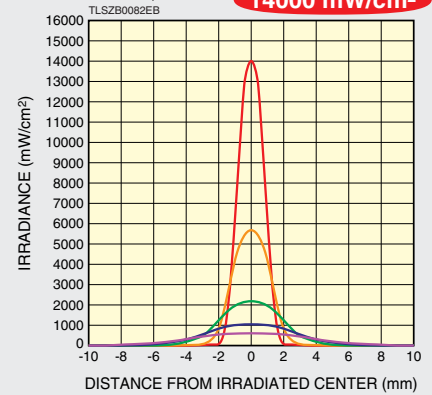


Maintains high irradiance unaffected by the irradiation distance, so it provides stable UV irradiation with no need for high precision jigs or fixtures.

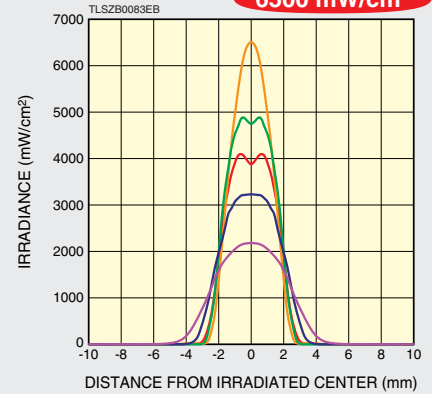
## Irradiance distributions (typical examples at 365 nm)

### Standard type

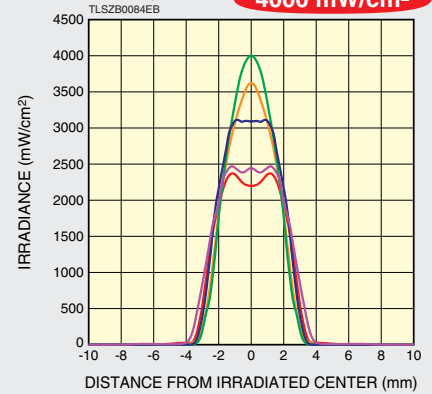
Irradiation area: φ3 mm **14000 mW/cm<sup>2</sup>**



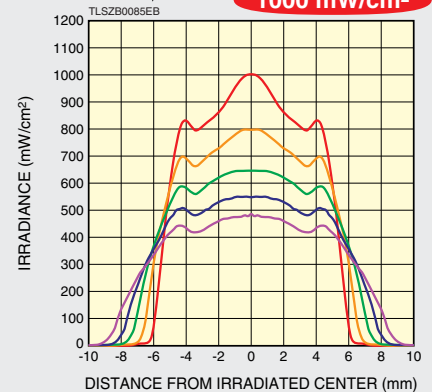
Irradiation area: φ6 mm **6500 mW/cm<sup>2</sup>**



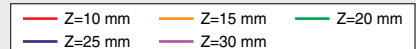
Irradiation area: φ8 mm **4000 mW/cm<sup>2</sup>**

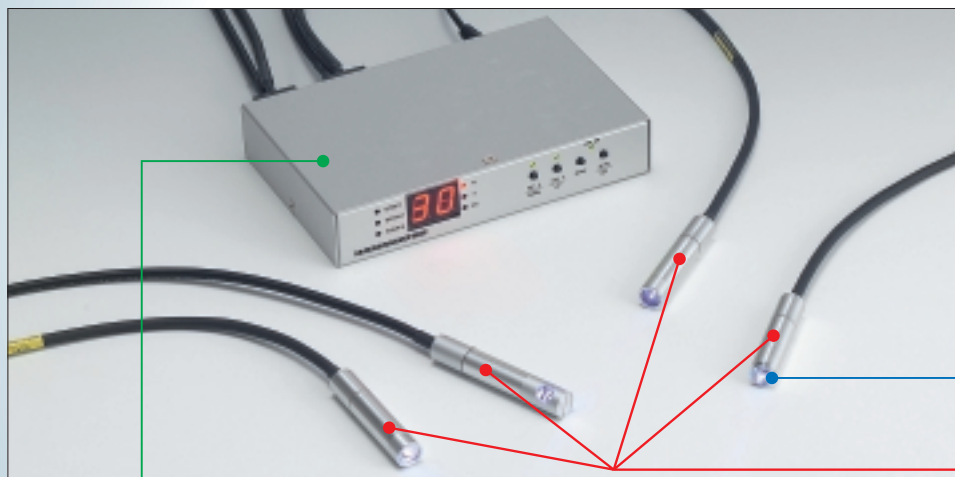


Irradiation area: φ12 mm **1000 mW/cm<sup>2</sup>**

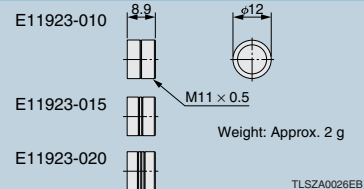


Z: Distance from end of lens





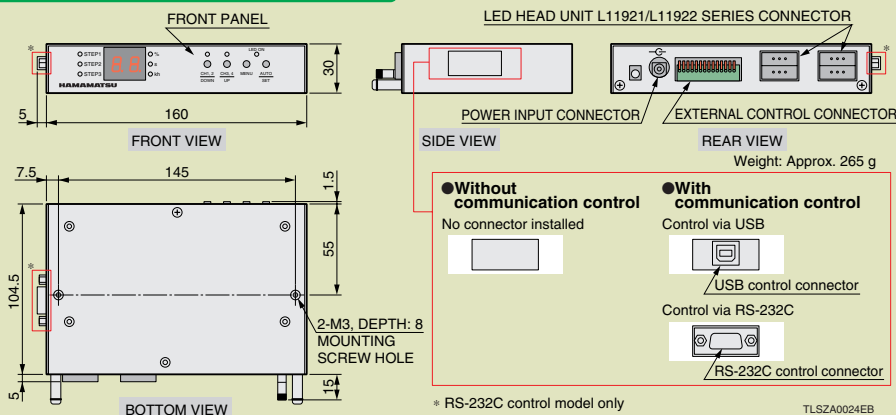
● **Condenser lens**  
E11923 series (sold separately)



Type No.	Irradiation area (mm)	Number of line
E11923-010	$\phi 3$	1
E11923-015	$\phi 6$	2
E11923-020	$\phi 8$	3

We can also fabricate condenser lenses that meet your specifications.  
Irradiation area can be changed as needed by combining with the standard type LED head unit (12 mm dia.) L11921-□00.

● **LED controller C11924 series**



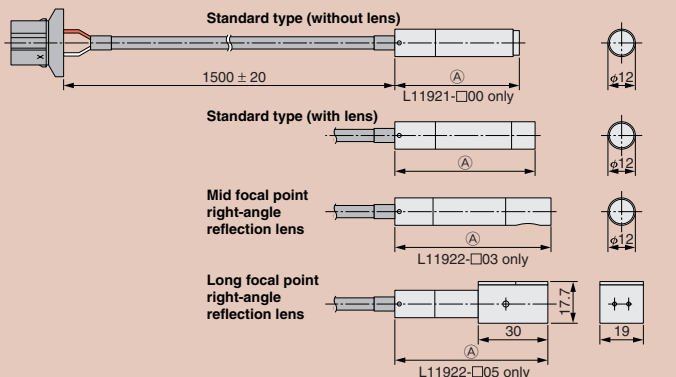
Type No.	Communication control	Control method
C11924-□01	N/A	—
C11924-□11	Available	Control via USB
C11924-□21		Control via RS-232C

Type No. in "□"

● Without AC adapter  
0: Please prepares adapters with AC DC 9 V, 25 W or more output (EIAJ plug) by yourself.

● With AC adapter  
Regional specifications  
1: For Japan 2: For EU 3: For Thailand  
4: For United Kingdom 5: For North America  
6: For China

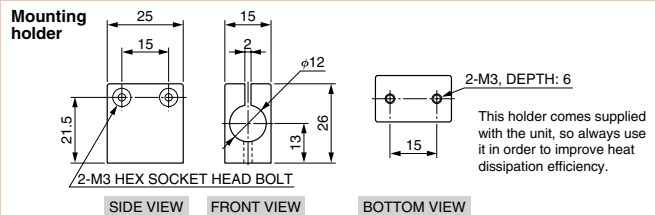
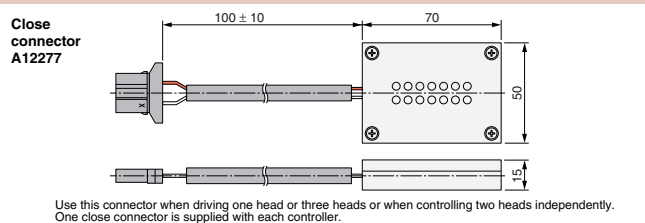
● **LED head unit L11921/L11922 series**



Type No.	Irradiation pattern variation	Irradiation area (mm)	Mounted condenser lens	Dimension (A) (mm)	Weight (g)	
L11921-□10 *	Standard type	$\phi 3$	E11923-010	60	Approx. 72	
L11921-□15 *		$\phi 6$	E11923-015	60	Approx. 72	
L11921-□20 *		$\phi 8$	E11923-020	60	Approx. 72	
L11921-□00		$\phi 12$	—	54	Approx. 70	
L11922-□01	Collimator type	$\phi 9$	—	60	Approx. 72	
L11922-□03	Right-angle type	$\phi 6$	—	Mid focal point type	69	Approx. 73
L11922-□05				Long focal point type	66.5	Approx. 85
L11922-□02	Linear beam type	20 × 6	—	Wide range type	56	Approx. 72
L11922-□04				Narrow range type	12 × 4	60

Type No. in "□"  
4: 365 nm 5: 385 nm

\* This is the model No. including the L11921-□00 and condenser lens E11923 series. Replacing the condenser lens with the E11923 series allows changing the irradiation area.



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