

UV-LED SPOT LIGHT SOURCE

LIGHTNINGCURE®
LC-L1

V5

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

APPLICATIONS

- UV adhesive curing
- UV ink drying
- UV coating drying

FEATURES

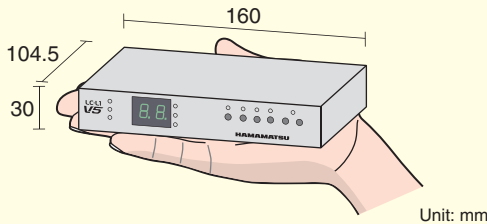
- High output and high stability
- Compact and lightweight
- Low power consumption
- Driving 4 heads independently



Features

Compact body easily installs into narrow confined spaces

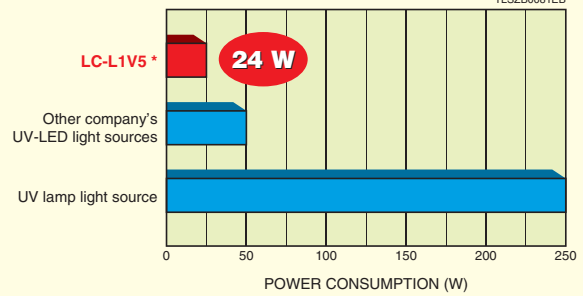
We came up with a unit that drives 4 heads but is small enough to fit in the palm of your hand!
Unit can also be freely placed standing or horizontal in just a tiny space, so it needs no special layout!



Huge reduction in power consumption

The LC-L1V5 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

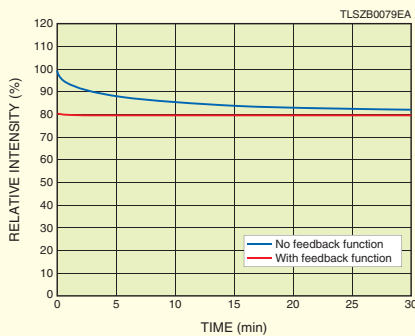


* Measured when 4 heads units are operated.

Further increase in light output stability

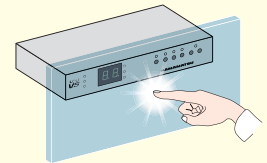
Our unique feedback function minimizes drift during initial light emission period and constantly maintains fluctuations in light output within 5% right after light emission starts. Ideal for applications requiring both high quality.

●LIGHT OUTPUT STABILITY



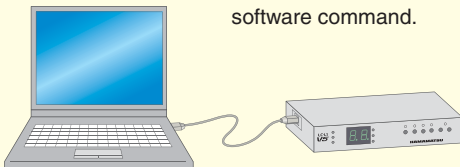
Prevents operator errors for better safety

The LC-L1V5 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.



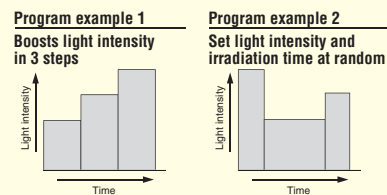
PC communication control improves work efficiency

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



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.



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

SPECIFICATIONS

Parameter	Description / Value	Unit
Wavelength	365	nm
UV irradiance ①	14000	mW/cm ²
LED design life ②	20000	h
Input voltage (DC)	12 ± 0.5	V
Power consumption (Max.) ③	24	W
Cooling method	Air cooling without fan	—
Operating temperature range	+5 to +40	°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	EMS standard	IEC61326-1: 2005 Group1 ClassA
	Safety standard	IEC61010-1: 2010
Warranty period ④	1 year	—

* Control description

Front panel control

- Manual irradiation / auto irradiation switching
- Irradiation program (light intensity, time, steps) setting
- Irradiation time check / reset
- Various error signal
- Life warning time setting

External control

- Manual irradiation / auto irradiation switching
- Irradiation signal
- Various error signal

Communication control

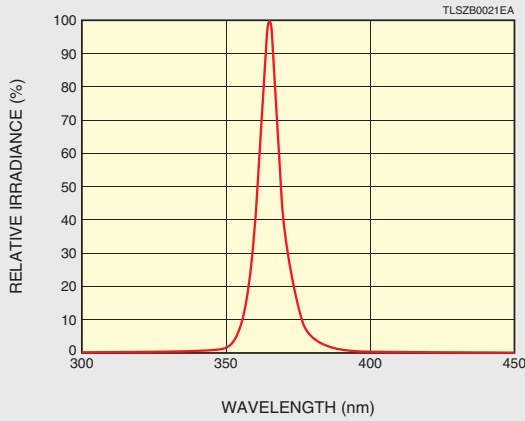
- Manual irradiation / auto irradiation switching
- Irradiation program (light intensity, time, steps) setting
- Irradiation time check / reset
- Various error signal

① Maximum UV irradiance within the irradiation area when a LED head unit L14310-110 is used at a distance of 10 mm.
② Average time until the irradiance drops to 70 % of the initial level when the LED head unit is properly cooled with mounting holder.
③ Measured when 4 head units are operated. ④ The warranty period is 1 year from the date of delivery.

Lineup

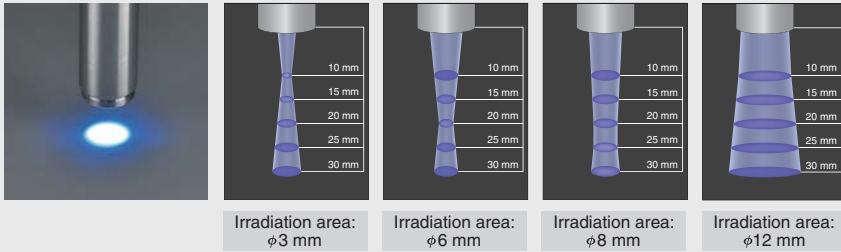
WAVELENGTH

●SPECTRAL DISTRIBUTION

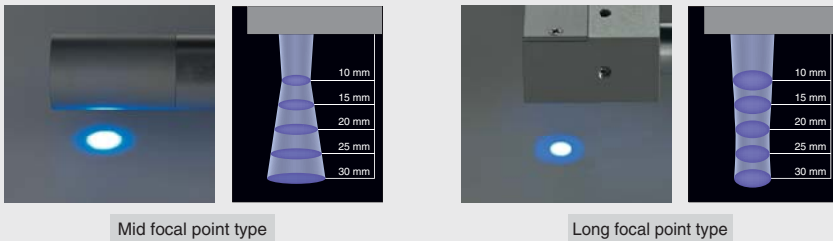


IRRADIATION BEAM SHAPE VARIATIONS

●STANDARD TYPE



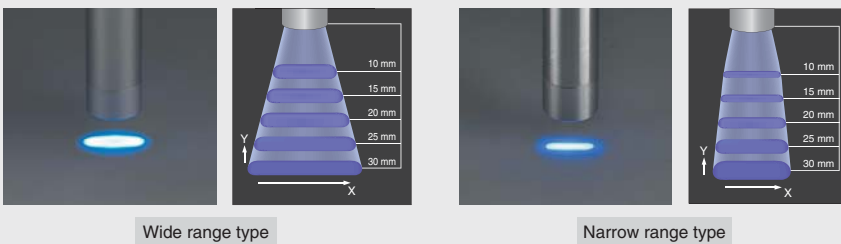
●RIGHT-ANGLE TYPE



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



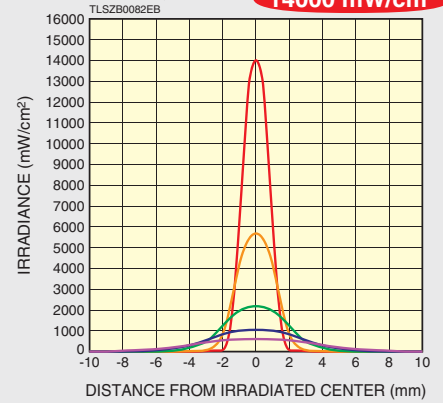
Emits light over a wide range in elliptical area and so is ideal for curing adhesive on irregular shaped workpieces or at multiple locations.

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

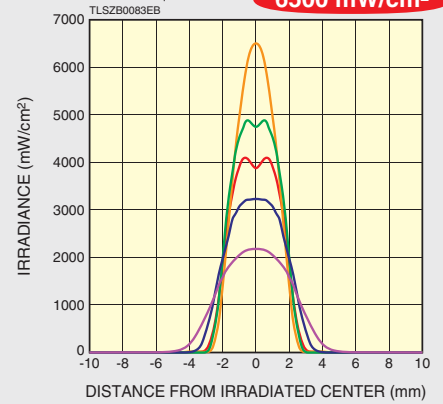
IRRADIANCE DISTRIBUTIONS (Typ.: 365 nm)

●STANDARD TYPE

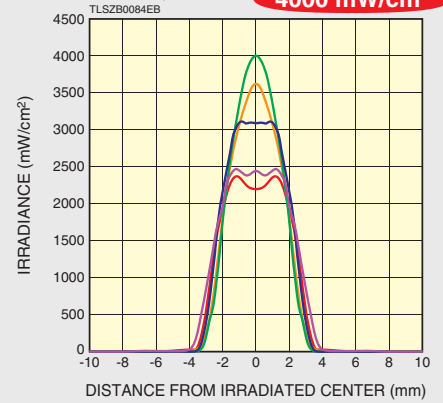
Irradiation area: $\phi 3$ mm **14000 mW/cm²**



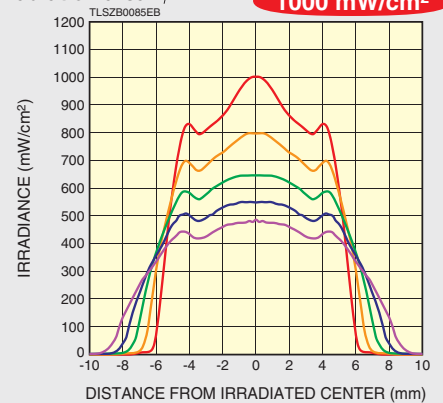
Irradiation area: $\phi 6$ mm **6500 mW/cm²**



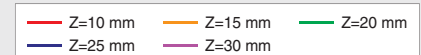
Irradiation area: $\phi 8$ mm **4000 mW/cm²**



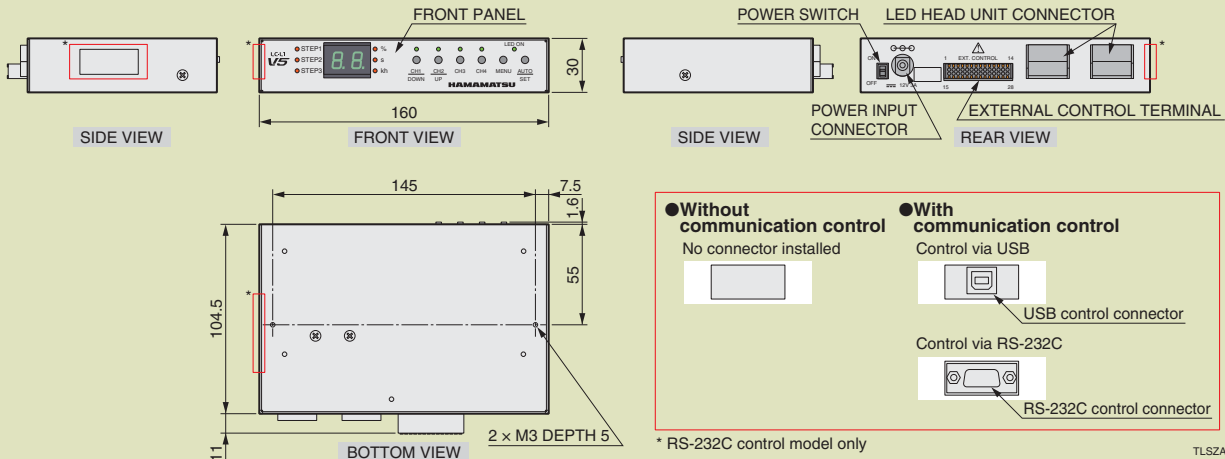
Irradiation area: $\phi 12$ mm **1000 mW/cm²**



Z: Distance from end of lens



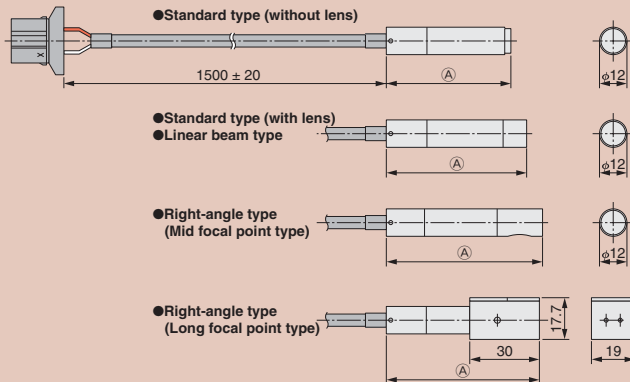
LED CONTROLLER C14052 SERIES



Type No.	Communication control	Control method
C14052-0-□□	N/A	—
C14052-1-□□	Available	Control via USB
C14052-2-□□		Control via RS-232C

Type No. in "□"
 ●Without AC adapter
 Not described: Please prepares adapters with AC DC 12 V, 24 W or more output (EIA plug) by yourself.
 * In case there is no suffix to C14052 (C14052-0), "0" is omitted. Therefore, type number is C14052.
 ●With AC adapter
 Regional specifications
 A1: For Japan A2: For North America A3: For EU A4: For China A5: For UK A7: For Thailand

LED HEAD UNIT L14310 / L14311 SERIES



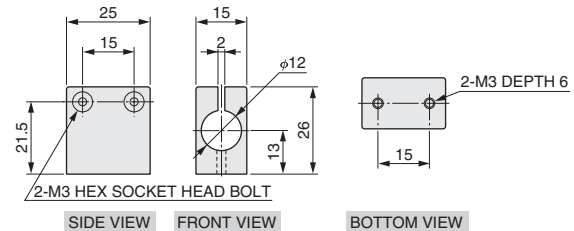
Type No.	Irradiation beam shape variation	Irradiation area (mm)	Mounted condenser lens	Dimension (A) (mm)	Weight (g)	
L14310-110 *	Standard type	φ3	E11923-010	60	Approx. 72	
L14310-115 *		φ6	E11923-015	60	Approx. 72	
L14310-120 *		φ8	E11923-020	60	Approx. 72	
L14310-100		φ12	—	54	Approx. 70	
L14311-103	Right-angle type	Mid focal point type	φ6	—	69	Approx. 73
L14311-105		Long focal point type	φ7	—	66.5	Approx. 85
L14311-102	Linear beam type	Wide range type	20 × 6	—	56	Approx. 72
L14311-104		Narrow type	12 × 4	—	60	Approx. 72

* This is the model No. including the L14310-100 and condenser lens E11923 series. Replacing the condenser lens with the E11923 series (sold separately) allows changing the irradiation area.

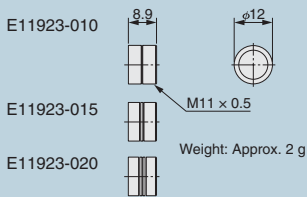
ACCESSORY
●MOUNTING HOLDER

Please make sure to use this mounting holder in order to improve efficiency of heat dissipation.

This mounting holder is fixed to the metal that has high thermal conductivity with screw hole (2-M3 depth 6 mm).



CONDENSER LENS E11923 SERIES



Type No.	Irradiation area (mm)	Number of line
E11923-010	φ3	1
E11923-015	φ6	2
E11923-020	φ8	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.) L14310-100.

HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Electron Tube Division

314-5, Shimokanzo, Iwata City, Shizuoka Pref., 438-0193, Japan, Telephone: (81)539/62-5248, Fax: (81)539/62-2205

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218 E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8 E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L.: 19, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: (33)1 69 53 71 00, Fax: (33)1 69 53 71 10 E-mail: infos@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Twin Road, Welwyn Garden City, Hertfordshire AL7 1BW, UK, Telephone: (44)1707-294888, Fax: (44)1707-325777 E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01 E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41 E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: 1201 Tower B, Jianning Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No.158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)03-659-0080, Fax: (886)03-659-0081 E-mail: info@hamamatsu.com.tw

TLSZ1034E02
OCT. 2018 IP