

**NEW**

# SPOLD<sup>®</sup> (built-in process monitor)

## LD Irradiation Light Source L13920-x11M

### LD Irradiation Light Source

“Visualization” of laser processing with real time monitoring system.

The “key” of management solution for laser processing.



### ■ Features

- Transmitted laser light and thermal information with a single fiber simultaneously
- Thermal information of laser irradiation point can be acquired without any adjustment
- Compatible with galvano mirror system
- High speed 1 millisecond sampling to detect an instantaneous change
- Simplified processing peripheral parts by compact irradiation unit

### ■ Applications

- Plastic welding
- Adhesive thermal curing
- Soldering
- Other process or principle using laser as heat source

## Specifications

Items		Specifications	
LD irradiation light source (with process monitor) main unit	Model No.	L13920-411M	L13920-511M
	Light output (with maximum current setting, at the focal spot of irradiation unit)	30 W (min.)	70 W (min.)
	Laser type	Laser diode (LD)	
	Peak oscillation wavelength (25 °C)	940 nm± 20 nm	
	Cooling method	Air cooling	
	Safety function	Interlock <sup>*2)</sup>	
	External control	D-sub 25 pin (main unit) / D-sub 15 pin (process monitor)	
	Power consumption	Less than 900 V · A	
	Dimensions (W × H × D)	Approx. 360 mm × 230 mm × 360 mm (excluding projecting parts)	
	Weight	Less than 17 kg	
	Measurable infrared output <sup>*1)</sup>	200 °C to 600 °C equivalent	
	Measurement cycle	1 ms	
	Output power specifications	0 V to 10 V (BNC connector) / 4 mA to 20 mA (M3 terminal screw)	
	Red guide beam	Including	
	Rated power supply voltage	Single-phase 100 V to 240 V (50 Hz/60 Hz)	
	Operating temperature range	+10 °C to +30 °C	
	Operating humidity range	Below 60 % (no condensation)	
Storage temperature range	0 °C to +50 °C		
Laser transmitting optical fiber	Model No.	A11612-K8DD5R <sup>*3)</sup>	
	Fiber core diameter	φ800 μm	
	Fiber length	Approx. 5 m	
Irradiation unit	Model No.	A12803-30-20DA <sup>*4)</sup>	
	Light condensing diameter	Approx. φ1.6 mm	
	Working distance	Approx. 98 mm	

\* LD Irradiation Light Source (built-in process monitor) is sold as one product which integrates main unit of LD Irradiation Light Source (built-in process monitor), laser transmitting fiber and irradiation unit. Each component cannot be removed.

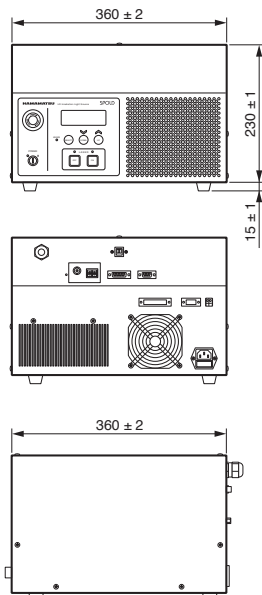
\*1) When measured using a blackbody furnace (emissivity: 0.93)

\*2) This irradiation light source was designed to be built into equipment such as a laser processing device, and therefore the interlock functions for stopping the laser do not conform to safety circuits required for Class 4 lasers. Please evaluate the safety performance with the whole system and take appropriate safety measures as necessary.

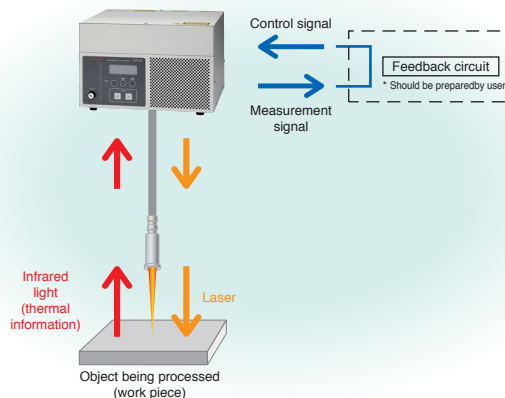
\*3) Other fiber core and fiber length are available.

\*4) Standard goods. Other beam spot diameter φ0.8mm, φ3.2mm, φ6.4mm are selectable.

## Dimensions (unit: mm)



## System



## Safety measures for laser products

This product is a Class 4 laser product. According to laser safety standards IEC 60825-1 which obligate manufacturers to provide preventive safety measures, Hamamatsu laser products are classified to implement appropriate safety measures and display required labels. The user should also implement safety measures in compliance with applicable regulations in the relevant country.

## Labels displayed (sample)



Explanatory label



Warning label

•SPOLD is registered trademark of Hamamatsu Photonics K.K.

## HAMAMATSU PHOTONICS K.K. www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Laser Promotion Division, Business Promotion G.

1-8-3, Shinmiyakoda, Kita-ku, Hamamatsu City, Shizuoka, 431-2103, Japan, Telephone: (81)53-484-1301, Fax: (81)53-484-1302, E-mail: sales-laser@lpd.hpk.co.jp

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: info@hamamatsu.fr

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin 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, Jiaming Center, 27 Dongsanhuan Beilu, Chaoyang District, 100020 Beijing, P.R.China, Telephone: (86)10-6586-8006, 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)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw