

# Supercontinuum Light Source L15077-C7



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The L15077-C7 supercontinuum light source is a compact laser light source that emits broadband near-infrared laser light generated from nonlinear optical phenomenon induced by an ultrashort pulsed laser. It provides the high directivity and high brightness of a laser along with the broad spectrum of a lamp light source. Compared to other company supercontinuum light sources the L15077-C7 delivers a light output with greater stability to give accurate measurements, analyses and inspections over a diverse range of applications.



## Features

- High stability:  $\pm 0.1\%$  (Typ.)
- Broad spectrum: 1300 nm to 2000 nm
- High brightness: About 20 000 times (compared to halogen lamps)

## Applications

- Optical coherence tomography (OCT)



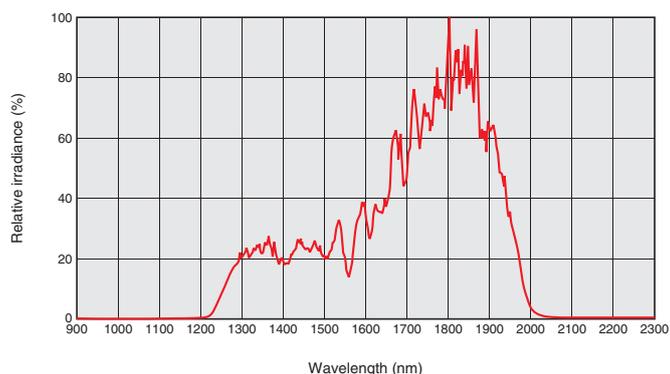
- Near-infrared spectroscopy



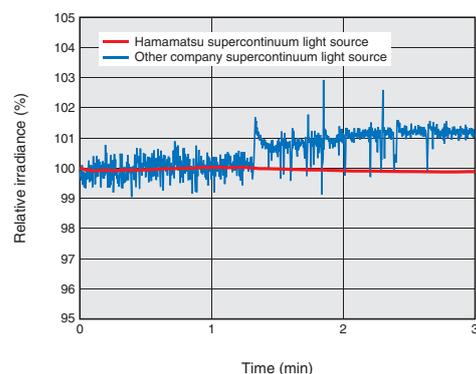
- Fourier transform near-infrared spectroscopy (FT-NIR)
- Gas measurement and analysis
- Semiconductor wafer inspection

## Characteristics

- Spectral distribution (Typ.)



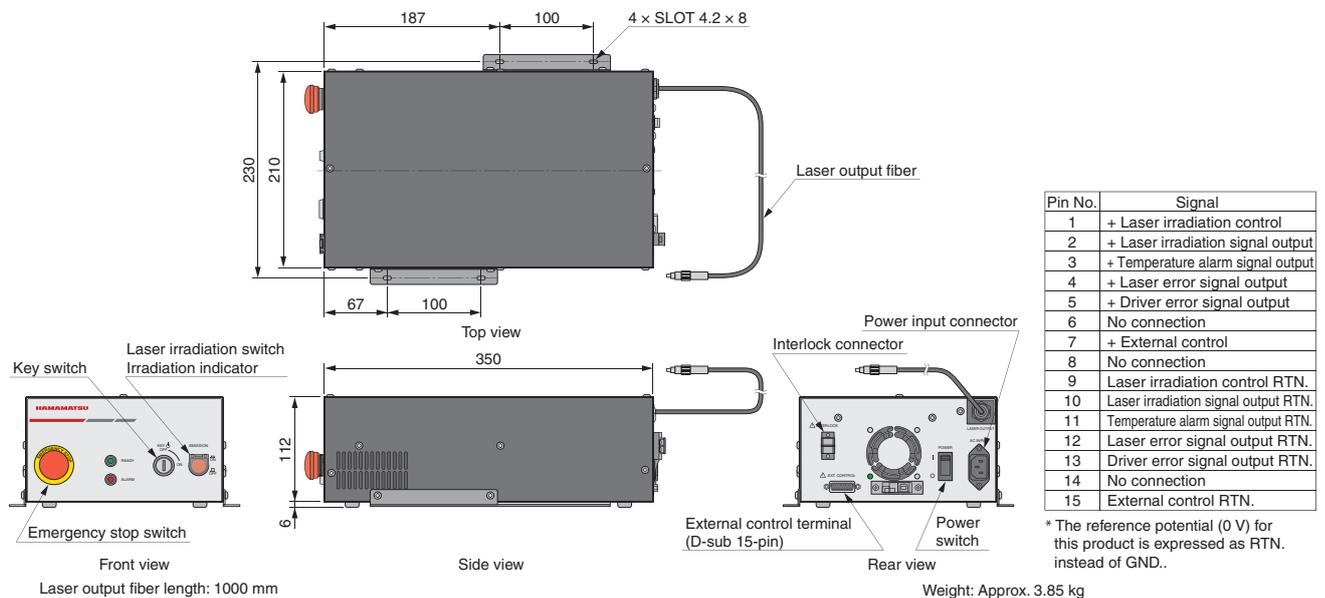
- Output stability (Typ.)



# Specifications

Parameter		Description / Value	Unit
Laser type		SC (Supercontinuum)	—
Beam mode		Single mode	—
Laser class		4	—
Polarization		Linear	—
Oscillation mode		Pulse operation	—
Repetition rate		50 ± 1	MHz
Spectral distribution		1300 to 2000	nm
Output power		50	mW
Output stability	Typ.	±0.1	%
Numerical aperture (NA)	Max.	0.07	—
Fiber output core diameter		10	μm
Fiber output connector		FC / APC connector	—
Design life		2000	h
Input voltage (AC)		100 V to 240 V, single phase 50 Hz / 60 Hz	—
Power consumption	Max.	80	VA
Cooling method	LD	Forced air cooling by peltier cooler and fan	—
	Main unit	Forced air cooling by fan	
Operating temperature range		+15 to +30 (no condensation)	°C
Storage temperature range		-10 to +50 (no condensation)	°C
Operating humidity range		10 to 60 (no condensation)	%
Storage humidity range		10 to 60 (no condensation)	%
External control		Irradiation control, irradiation signal, various error signals	—
Applicable standards	EMC standards	IEC/EN 61326-1 Emission limits: CISPR 11 Group 1 Class B Immunity requirements: Table 2	—
	Safety standards	IEC/EN 61010-1	
		IEC/EN 60825-1	
Environmental standard (RoHS)		EN 50581	

# Dimensional outline (Unit: mm)



# Q&A

## Questions

- Is the optical fiber detachable?
- Can the L15077-C7 be used even if it exceeds the design life (2000 hours)?
- Is the output laser beam collimated?
- Can the L15077-C7 be operated with other equipment?

## Answers

- No, the optical fiber cannot be detached from the main unit. If you want to use any other optical fiber, connect it to the optical fiber by using an FC / APC connector.
- We recommend replacing the laser module before its operation time exceeds the design life (2000 hours). An alarm is output when the total operation time of the laser module reaches 2000 hours. If the laser module is used continuously in excess of 2000 hours, the output stability will decrease and the laser module might not emit light. We will replace the laser module for a fee. Please return it to us for replacement.
- No, the output laser beam is not collimated. The output beam is diffused at an angle that corresponds to the numeric aperture (NA) of approximately 0.07.
- Yes, the L15077-C7 is designed to allow external control. It can operate with other equipment.

## Be sure to read before using laser products.

To ensure safe and efficient use of laser products, thoroughly read the precautions and instructions for the product you purchased before attempting to use it.

Also carefully read the user manual and precautions that come with the product and comply with the instructions and related laws and regulations.

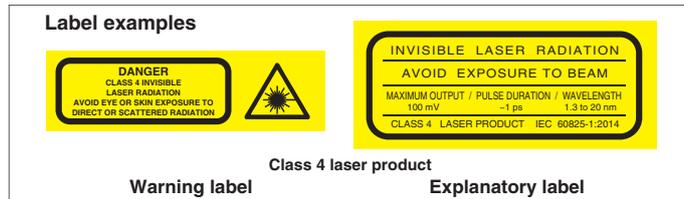
### Warning

#### ● Caution points regarding laser light exposure

· This product is classified as a Class 4 laser product according to the laser product classification defined by IEC 60825-1 2014. Take appropriate safety measures that comply with the safety precautions given in IEC 60825-1 2014. (Also comply with related laws and regulations applicable in each country or state.)

#### ● Safety measures for laser products

- We do not guarantee the integrity and total safety of this product. When this product must be used in equipment or systems whose failure might result in personal injury or death or damage to property, take appropriate measures including a design with ample safety features to avoid potential trouble that might occur during normal use. (Install safety devices that comply with the laws and regulations applicable in each country or state.)
- This product is designed to be built into equipment. Install this product into equipment designed with safety measures such as emergency stop functions.



### Precautions for use

- This product emits light invisible to the naked eye. Avoid eye or skin exposure to direct or scattered laser light.
- Do not touch the laser output fiber tip during laser irradiation.
- When irradiating flammable materials with laser light, these may catch fire or emit smoke so use extra caution.
- Do not apply vibration or impact to this product. Vibration or impact may degrade the product characteristics.
- The product characteristics may degrade depending on environmental conditions. Always be sure to use or store this product within the specifications.
- Before starting laser emission be sure to clean the laser output fiber tip by using the supplied cleaner. If the laser beam is emitted while there is dust or dirt is on the laser output fiber tip, then the fiber tip may be damaged. To check the fiber tip after cleaning, use a fiber scope (Thorlabs FS201-FC or similar device).
- The laser output fiber contains thin fragile glass fibers. Do not apply mechanical impact to it, pull on it, squeeze it, bend it beyond its allowable bending radius, or twist it. Doing so may adversely affect laser transmission characteristics such as by causing loss of transmittance or damage to the optical fiber.

### Warranty

This product is warranted for a period of one year from the date of delivery. The warranty is limited to replacement of a defective unit. The warranty will not apply in the following cases even if within the warranty period.

- (1) Failure or trouble was caused by incorrect handling or operation that did not comply with instructions and precautions described in this manual.
- (2) Failure or trouble was caused by electrical or mechanical modifications performed by the customer.
- (3) Failure or trouble was caused by accidents such as natural or man-made disasters or other unavoidable factors.

### Disposal of this product

When disposing of this product take appropriate measures in compliance with applicable waste disposal regulation and correctly dispose of it yourself or entrust proper disposal to a licensed industrial waste disposal company. In any case, be sure to comply with the regulations in your country or state to ensure correct disposal.

Subject to local technical requirements and regulations, availability of products included in this promotional material may vary. Please consult with our sales office.

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