



L16462-01

Near infrared (up to 2500 nm) light source for diffuse reflection measurement

The L16462-01 is a module with built-in lamps and an optical fiber for doing diffuse reflection measurement in near-infrared spectrophotometry. This module irradiates a sample with light from lamps, and the light that enters the sample and is diffused/reflected is introduced into the optical fiber. It is connected to a near-infrared spectrometer for use. With this product, in which plural lamps and an optical fiber are arranged close to each other, the weak diffused light emitted from the sample can be detected efficiently.

Features

- **Compact: $\phi 28.0$ mm \times 35.5 mm**
- **Long life: 7000 hr (average)**
- **High detection efficiency (built-in multiple lamps)**
- **Wide wavelength range: 400 nm to 2500 nm**

Applications

- **Spectrophotometry**
- **PAT: process analytical technology (medicine, food, etc.)**
- **Recycling (plastic, etc.)**

Structure

Parameter		Specification	Unit
Tungsten lamp	Quantity	4	pcs
	Irradiation angle*1	Approx. 60	degrees
	Recommended supply voltage	+5	V
	Average lifetime*2	7000	hr
	Warranty lifetime*3	2000	hr
Focal position*4	With spacer attached	Approx. 0	mm
	With spacer detached	Approx. 3	mm
Built-in optical fiber angle*1		Approx. 90	degrees
Built-in optical fiber		Core diameter=1000 μ m, NA=0.22	-
Optical fiber connector		SMA905	-
Power connector		EGG.00.302.CLL (LEMO)	-
Dimensions (excluding protrusions)		$\phi 28 \times 35.5$	mm
Window material		Quartz glass	-

*1: Angle with the light emission surface of the case

*2: Average lifetime of lamp itself. Time until 50% of the lamps burn out, when the lamps are lit continuously at an ambient temperature of 25° C at the recommended supply voltage of 5 V.

*3: Time after delivery, not lamp lighting time

*4: Distance from the case light emission surface to the focal point. The focal point is the point where the light outputs of the four lamps overlap.

Note: There is a fee for replacement of burned out lamps. Please contact your local Hamamatsu sales office.

Absolute maximum ratings (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Condition	Value	Unit
Operating temperature	Topr	No dew condensation*5	+5 to +50	°C
Storage temperature	Tstg	No dew condensation*5	-20 to +70	°C
Maximum supply voltage	Vin max		+6	V
Maximum input current	Iin max		550	mA

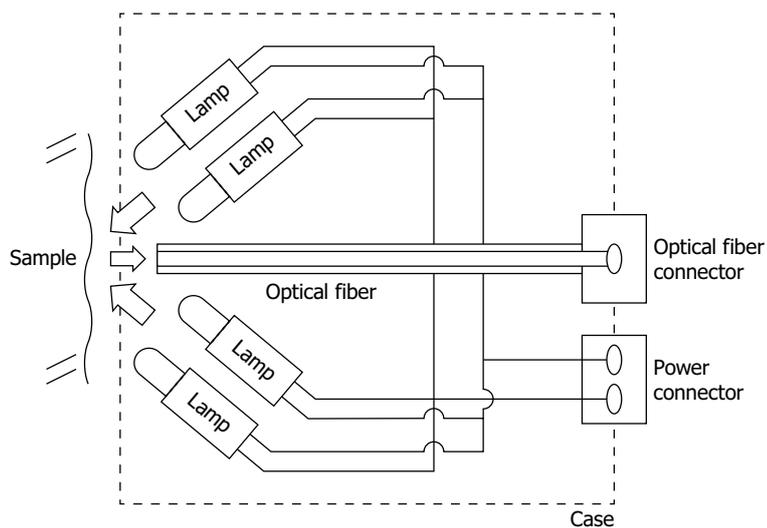
*5: When there is a temperature difference between a product and the surrounding area in high humidity environments, dew condensation may occur on the product surface. Dew condensation on the product may cause deterioration in characteristics and reliability.

Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical and optical characteristics (Ta=25 °C, Vin=5 V)

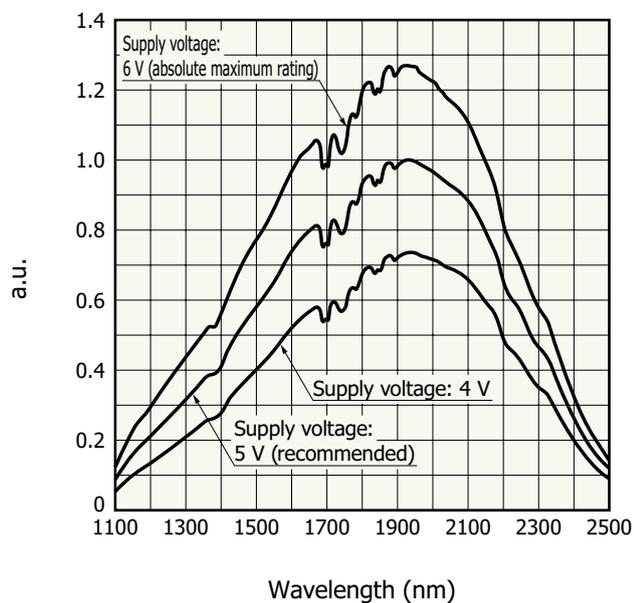
Parameter	Min.	Typ.	Max.	Unit
Current consumption	385	460	515	mA
Wavelength range	-	400 to 2500	-	nm

Block diagram

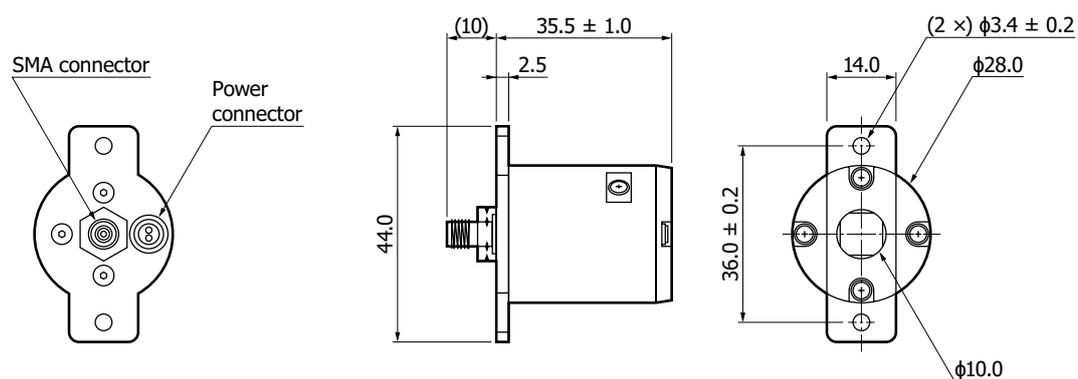


KACCC1181EA

Spectrum (when FTIR engine C15511-01 is used, typical example)



KACCB0732EA

Dimensional outline (unit: mm)

Tolerance unless otherwise noted: ± 0.5
Weight: 50 g

KACCA0490EA

Accessories

- CD-ROM (instruction manual)

Options (sold separately)

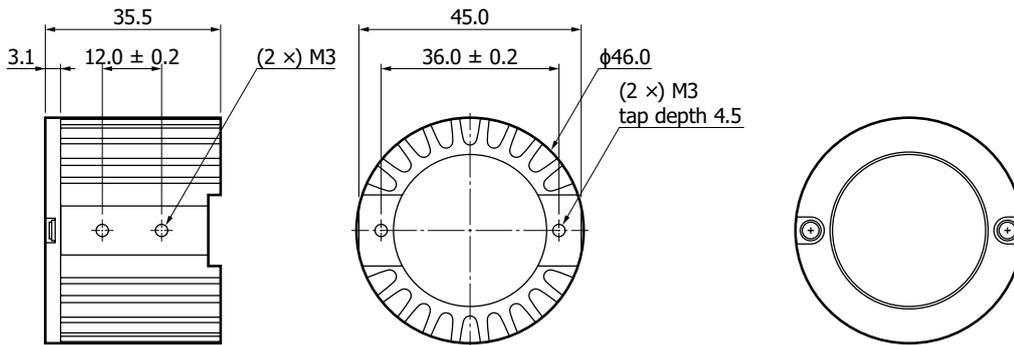
■ Power cable A16572-01

Connector	Specification
FGG.00.302.CLAD35	Length: 1.5 m, One end: lead wire soldering, Wire: AWG26

■ Optical fiber cable A17630-015

Connector	Specification
SMA on each end	600 μm core, NA=0.22, Low-OH Optical fiber, Length: 1500 mm, Metal covering, With CPS (Cladding Power Stripper)

■ Protector A16643-01 (unit: mm)



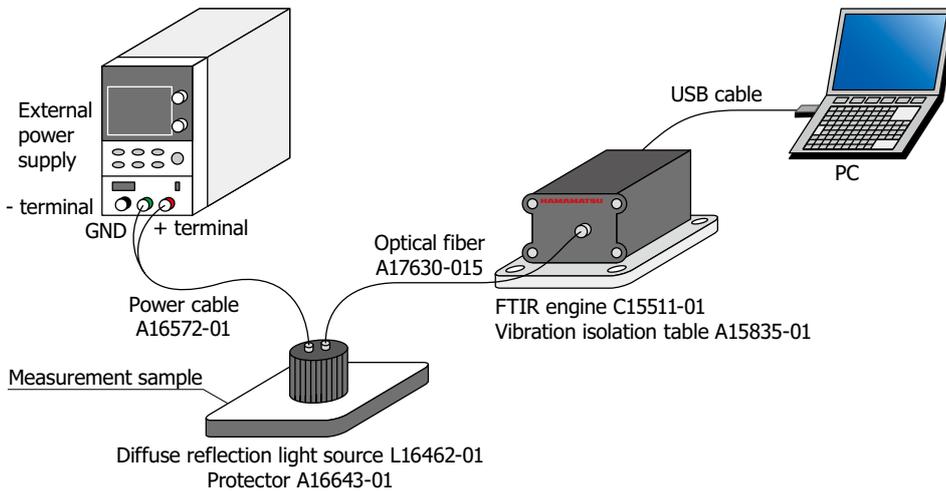
Accessories: M3 bolt (× 4), washer (× 4), spring washer (× 4)

Tolerance unless otherwise noted: ±0.5
Weight: 55 g

KACCA0491EA

Connection example

A connection example using Hamamatsu FTIR engine (C15511-01) is shown below.



KACCC1182EC

Related products

FTIR engine C16511-01



A Michelson optical interferometer, a control circuit, and a calculation circuit are built into a compact enclosure. Spectrum and absorbance can be measured by connecting a PC via Ethernet.

Features

- Compact
- High speed: 275 frames/s
- Optical fiber input type
- High wavelength accuracy
- High S/N: Suitable for diffuse reflection measurements and absorbance measurements
- Spectral response range: 1100 nm to 2500 nm
- Ethernet compatible

FTIR engine C15511-01



This is a compact Fourier transform type near-infrared spectrometer, with a built-in Michelson optical interferometer and a control circuit in a palm-sized case. Spectrum and absorbance can be measured by connecting a PC via USB.

Features

- Compact: palm size
- Optical fiber input type
- High wavelength accuracy
- No external power supply required (USB bus powered)
- High S/N: Suitable for diffuse reflection measurement and absorbance measurement
- Spectral response range: 1100 nm to 2500 nm

Mini-spectrometer C14486GA



This is a spectrometer (polychromator) provided in a compact, thin case that houses optical elements, InGaAs image sensor, and driver circuit. The trigger function enables spectroscopic measurement of pulse emissions.

Features

- Compact, thin case
- Optical fiber input type
- With trigger function
- No external power supply required (USB bus powered)
- Stores wavelength conversion factor*6 in internal memory
- Spectral response range: 950 nm to 1700 nm

*6: A factor for converting the pixel numbers of the image sensor to wavelengths

⚠ Precautions

- Do not look directly at the emitted light.

This product has built-in tungsten lamps that emit light in the visible to near-infrared region, from the light emitter. Light risk group: classified as exemption according to EN 62471/IEC 62471, but directly looking into the light for a long time or from a very close distance may impair visual function.

- Beware of high temperature.

The temperature of the case of this product rises when the lamp is turned on. If you touch this product for a long time after the lamps are on, your skin may become red, itchy, or develop a rash, and you may get burned. Avoid touching this product when it is hot, as much as possible.

- Do not apply overvoltage.

Applying a voltage or current that exceeds the absolute maximum ratings even momentarily may damage the built-in lamps, so that they cannot be turned on. Make sure to use the product within the absolute maximum ratings. If the lamps are damaged due to overvoltage or overcurrent, there will be a fee for replacement of the lamps even if the lamps are still within its warranty life. Please contact your local Hamamatsu sales office.

⚠ Related information

http://www.hamamatsu.com/sp/ssd/doc_en.html

- Precautions
- Disclaimer

The content of this document is current as of March 2025.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

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HAMAMATSU

www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Chuo-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81)53-434-3311, Fax: (81)53-434-5184

U.S.A.: HAMAMATSU CORPORATION: 360 Foothill Road, Bridgewater, NJ 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218

Germany: HAMAMATSU PHOTONICS DEUTSCHLAND GMBH: Arzbergerstr. 10, 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 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 20044 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, P.R. China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866 E-mail: hpc@hamamatsu.com.cn

Taiwan: HAMAMATSU PHOTONICS TAIWAN CO., LTD.: 13F-1, No.101, Section 2, Gongdao 5th Road, East Dist., Hsinchu City, 300046, Taiwan(R.O.C) Telephone: (886)3-659-0080, Fax: (886)3-659-0081 E-mail: info@hamamatsu.com.tw