

PLP-10

Laser diode head series

High repetition up to 100 MHz

Wavelength range from 375 nm to 1550 nm



The controller is sold separately.

The PLP-10 is an ultrashort pulsed light source that utilizes a laser diode (LD). It consists of a LD head and a controller. 13 types of LD head are available to accommodate various wavelengths, enabling optical output over a broad wavelength range of 375 nm to 1550 nm.

PLP-10 is ideal light source for measuring the response of a photodetector device, the characteristics of optical recording device or the lifetime measurement.

Optical output is selectable from window output or FC connector output.

FEATURES

- Ultrashort pulses 70 ps FWHM (Typ.)
- High-repetition frequency up to 100 MHz
- Stable output power and oscillation timing
- Built-in trigger delay

APPLICATIONS

- Excitation light source for fluorescence lifetime measurements
- Excitation light source for LIF
- Pulse response measurement of high-speed photodetectors
- Evaluation of an optical recording device
- Photochemical reaction
- Spectrum analysis
- Frequency characteristics of POF communication
- Evaluation of magnetic optical characteristic
- Alternate light source of He-Cd / Ar laser
- Evaluation of macromolecule new material

SPECIFICATIONS

● PLP-10 Laser diode head M10306

Product name	Type number	Wavelength(nm)	Wavelength tolerance(nm)	Spectral half-width(nm)	Pulse width(ps)		Beam divergence angle(Typ. deg)*		Peak power(mW)	
					max.	Typ.	θ_{\perp}	$\theta_{//}$	Typ.	min.
PLP-10 Laser diode head 380 nm	M10306-27	375	$\leq \pm 10$	< 10	80	50	-	26	600	200
PLP-10 Laser diode head 380 nm FC	M10306-28								250	85
PLP-10 Laser diode head 400 nm	M10306-29	405	$\leq \pm 10$	< 10	100	60	-	23	400	200
PLP-10 Laser diode head 400 nm FC	M10306-30								200	100
PLP-10 Laser diode head 440 nm	M10306-31	445	$\leq \pm 10$	< 10	100	70	-	29	160	80
PLP-10 Laser diode head 440 nm FC	M10306-32								80	40
PLP-10 Laser diode head 470 nm	M10306-33	465	$\leq \pm 10$	< 10	100	70	-	29	180	80
PLP-10 Laser diode head 470 nm FC	M10306-34								90	40
PLP-10 Laser diode head 480 nm	M10306-35	483	$\leq \pm 10$	< 10	120	80	-	27	150	70
PLP-10 Laser diode head 480 nm FC	M10306-36								70	35
PLP-10 Laser diode head 510 nm	M10306-37	510	$\leq \pm 10$	< 10	180	130	-	26	50	20
PLP-10 Laser diode head 510 nm FC	M10306-38								25	10
PLP-10 Laser diode head 650 nm	M10306-11	655	$\leq \pm 20$	< 5	100	70	-	27	50	20
PLP-10 Laser diode head 650 nm FC	M10306-12								20	8
PLP-10 Laser diode head 780 nm	M10306-15	785	$\leq \pm 20$	< 10	120	100	-	17	70	30
PLP-10 Laser diode head 780 nm FC	M10306-16								30	10
PLP-10 Laser diode head 850 nm	M10306-17	850	$\leq \pm 10$	< 5	100	70	-	32	100	50
PLP-10 Laser diode head 850 nm FC	M10306-18								50	25
PLP-10 Laser diode head 905 nm	M10306-41	905	$\leq \pm 10$	< 5	100	70	-	28	100	50
PLP-10 Laser diode head 905 nm FC	M10306-42								50	25
PLP-10 Laser diode head 970 nm	M10306-39	970	$\leq \pm 20$	< 20	120	80	-	50	400	200
PLP-10 Laser diode head 970 nm FC	M10306-40								100	50
PLP-10 Laser diode head 1300 nm	M10306-21	1310	$\leq \pm 30$	< 10	100	70	-	30	20	10
PLP-10 Laser diode head 1300 nm FC	M10306-22								10	5
PLP-10 Laser diode head 1550 nm	M10306-23	1550	$\leq \pm 30$	< 20	100	70	-	30	10	5
PLP-10 Laser diode head 1550 nm FC	M10306-24								5	2

*Measured using a window output type. θ_{\perp} : the value of LD head with CAUTION label upper surface.

The above value is measured with 100 MHz. The values can be changed depending on the frequency. The PLP head should be selected according to wavelength and output form and can be exchangeable with the controller C10196. It is necessary to adjust the PLP head for the controller. M10306-28 comes with APC polished quartz fiber (GI 50/125, 2 m).

● Controller for PLP-10 C10196

Repetition frequency (Hz) : Internal trigger	100 MHz, 50 MHz, 20 MHz, 10 MHz, 5 MHz, 2 MHz, 1 MHz, 500 kHz, 200 kHz, 100 kHz, 50 kHz, 20 kHz, 10 kHz, 5 kHz, 2 kHz, 1 kHz, 500 Hz, 200 Hz, 100 Hz, 50 Hz, 20 Hz, 10 Hz, 5 Hz, 2 Hz
: External trigger	Single shot to max. 50 MHz
External trigger input : Amplitude	- 4 V to + 4 V (50 Ω)
: Minimum pulse width	10 ns
Synchronous trigger output : Amplitude (Selectable)	+ 2 V to + 3 V (50 Ω) or - 500 mV to - 700 mV (50 Ω)
: Pulse width	5 ns \pm 3 ns
: Timing	Before or after optical output (selectable)
: Delay time	Ref (0 ns)*, 20 ns, 40 ns, 60 ns, 80 ns, 100 ns
Line voltage	AC 100 V to AC 240 V, 50 Hz/60 Hz
Power supply	AC 90 V to AC 264 V
Power consumption	90 VA

*Ref (0 ns) does not define zero time difference of synchronized signal and optical output with selecting Ref.

● Common specifications

Ambient operating temperature	+10 °C to +30 °C
Ambient storage temperature	-10 °C to +50 °C
Ambient operating humidity	70 % max. (with no condensation)

OPTION

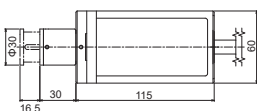
● Focusing lens for PLP-10 A10089

Lens unit to condense or to collimate laser for PLP-10 (Window output).



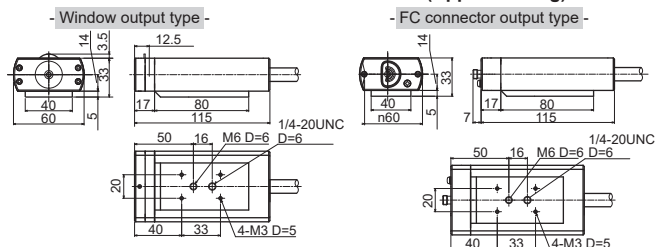
▲ Fitting image

DIMENSIONAL OUTLINES (Unit: mm)

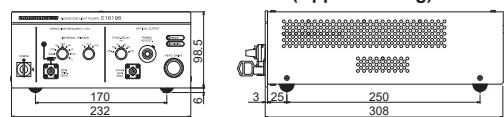


DIMENSIONAL OUTLINES (Unit: mm)

● PLP-10 Laser diode head M10306 (Approx. 0.9 kg)



● Controller for PLP-10 C10196 (Approx. 4.6 kg)



LASER SAFETY

The PLP-10 uses lasers to be classified, Class 3B. Conforming to international laser safety standards (USA: 21 CFR 1040.10 CDRH, other areas: IEC 60825-1), which obligate manufacturers to provide preventive safety measures, Hamamatsu lasers are classified, and appropriate safety measures and labeling are provided. During operation, users must also use their preventive safety measures according to laser-related regulations.



Description label (sample)



Caution label

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Systems Division

812 Joko-cho, Higashi-ku, Hamamatsu City, 431-3196, Japan, Telephone: (81)53-431-0124, Fax: (81)53-433-8031, E-mail: export@sys.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: 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, 20020 Aresè (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.: 8F-3, No.158, Section 2, 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

Cat. No. SOCS003E18
JUL/2020 HPK
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