

# PICOSECOND LIGHT PULSER PLP-10

Instruction in  
RoHS conforming

High repetition up to 100 MHz

Wavelength range from 375 nm to 1550 nm



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

The PLP-10 is ideal for frequency characteristics evaluation of POF optical communications, response characteristics evaluation of a photodetector device, and an excitation light source of a fluorescence lifetime measurement system.

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

## FEATURES

- Ultrashort pulses with FWHM of 100 ps or less
- High-repetition frequency up to 100 MHz
- Stable output power and oscillation timing
- Easy handling and maintenance free operation
- Built-in trigger delay

## APPLICATIONS

- Frequency characteristics evaluation of POF and Gigabit Ethernet optical fiber
- Pulse response measurement of high-speed photodetectors
- Evaluation of an optical recording medium
- Excitation light source for fluorescence lifetime measurements

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# SPECIFICATIONS

## ● Laser diode head M10306

- window Output : PLP10-xxx / FC connector Output : PLP10-xxxC

Parameter		Unit	PLP10-038	PLP10-040 PLP10-040C	PLP10-044 PLP10-044C	PLP10-047 PLP10-047C	PLP10-063 PLP10-063C	PLP10-065 PLP10-065C	PLP10-078 PLP10-078C	PLP10-085 PLP10-085C	PLP10-098 PLP10-098C	PLP10-130 PLP10-130C	PLP10-155 PLP10-155C	
Emission wavelength		nm	375	405	440	473	635	655	785	850	980	1300	1550	
Wavelength tolerance		nm	<±10	<±10	<±10	<±10	<±20	<±20	<±20	<±10	<±20	<±30	<±30	
Spectral half-width		nm	<10	<10	<10	<10	<5	<5	<10	<5	<20	<10	<20	
Pulse width	max.	ps	100	100	150	180	110	100	120	100	100	100	100	
	typ.	ps	80	70	100	130	90	70	100	70	70	70	70	
Beam divergence angle*		$\theta_{\perp}$	deg.	15	16	13	12	10	8	9	12	30	25	35
		$\theta_{\parallel}$	deg.	30	34	28	28	35	27	17	32	40	30	45
Peak power	Window output	typ.	mW	70	100	80	60	70	50	70	100	100	20	10
		min.	mW	30	50	40	30	30	20	30	50	50	10	5
	FC connector output	typ.	mW	-	50	20	20	30	20	30	50	50	10	5
		min.	mW	-	25	10	10	10	8	10	25	20	5	2

\*Measured using a window output type.

Note: 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.

## ● Controller C10196

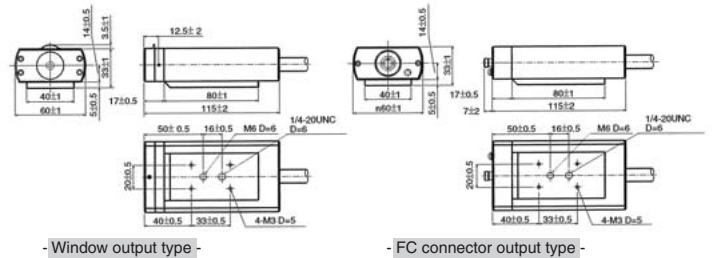
- Repetition frequency (Hz)
  - Internal trigger ..... 100 MHz, 50 MHz, 20 MHz, 10 MHz, 5 MHz, 2 MHz, 1 MHz, 500 kHz, 200 kHz, 100 kHz, 50 kHz, 20 kHz, 10 kHz, 5 kHz, 2 kHz, 1 kHz, 500 Hz, 200 Hz, 100 Hz, 50 Hz, 20 Hz, 10 Hz, 5 Hz, 2 Hz
  - External trigger ..... Single shot to 50 MHz
- External trigger 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 W) or - 500 mV to - 700 mV (50 W)
  - Pulse width ..... 5 ns ± 3 ns
  - Timing ..... before or after optical output (selectable)
  - Delay time .... t<sub>0</sub> (reference time) ±Δt; Δt= 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 consumption ..... 90 V·A

## ● Common specifications

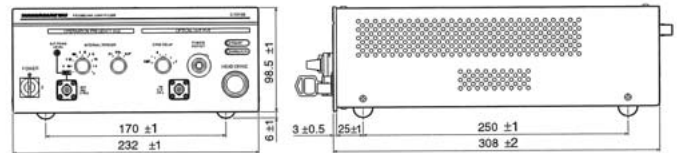
- Ambient operating temperature ..... +10°C to +30°C
- Ambient storage temperature ..... -10°C to +50°C
- Ambient operating/storage humidity ... 70% or less (non-condensing)

## DIMENSIONAL OUTLINES (Unit: mm)

### ● Laser diode head M10306 (approx. 0.6 kg)



### ● Controller C10196 (approx. 4.6 kg)



## LASER SAFETY

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.

### ● Labels

Hamamatsu model PLP-10 uses lasers to be classified, Class 3B.



Description Label (Sample)



Caution Label

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