

# HIGH-REPETITION PICOSECOND LIGHT PULSER

## Model PLP-10



High repetition up to 100 MHz  
Wavelength range from 375 to 1,550 nm



The picosecond light pulser PLP-10 is an ultrashort pulsed light source that utilizes a laser diode (LD) head. It consists of a controller and an LD head. Ten LD head types are available to accommodate various wavelengths, enabling optical output over a broad wavelength range of 375 to 1,550 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 to use and maintenance free operation
- Built-in trigger delay
- LED heads (**optional**)
  - Please consult with our sales office.

### APPLICATIONS

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

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# SPECIFICATIONS

## ● M8903 Laser diode head

- Output form type: window: PLP10-xxx / FC connector (for multi-mode optical fiber) : PLP10-xxxC

Parameter		Unit	PLP10-038 *****	PLP10-041 PLP10-041C	PLP10-044 PLP10-044C	PLP10-063 PLP10-063C	PLP10-065 PLP10-065C	PLP10-067 PLP10-067C	PLP10-078 PLP10-078C	PLP10-085 PLP10-085C	PLP10-130 PLP10-130C	PLP10-155 PLP10-155C
Emission wavelength		nm	375	405	440	635	650	670	780	850	1300	1550
Wavelength tolerance		nm	<±10	<±10	<±10	<±10	<±10	<±10	<±20	<±10	<±30	<±30
Spectral half-width		nm	<10	<10	<10	<5	<5	<5	<5	<5	<10	<20
Pulse width	max.	ps	100	100	100	110	100	100	100	100	100	100
	typ.		80	70	80	90	70	70	70	70	70	70
Beam divergence angle*		θ <sub>∥</sub>	15	16	13	10	11	10	15	12	25	25
		θ <sub>⊥</sub>	30	34	28	35	35	40	30	32	30	30
Peak power	Window output	typ	70	100	80	70	70	70	70	100	20	10
		min.	30	50	40	30	30	30	30	50	10	5
	FC connector output	typ	***	50	20	30	30	30	30	50	10	5
		min.	***	25	10	10	10	10	10	25	5	2

\*Measured using a window output type.

Note: Measured with 100MHz. 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 C8898.

## ● C8898 Controller

- 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 output
  - Amplitude ..... -4 to +4 V/50 Ω
  - Minimum pulse width ..... 10 ns
- Synchronous trigger output
  - Amplitude (Selectable) ..... +2 to +3 V / 50 Ω  
or -500 to 700 mV / 50 Ω
  - Pulse width ..... 5 ns ± 3 ns
  - Timing ..... before or after optical output (selectable)
  - Delay time .... to (reference time) ±Δt; Δt= 0 ns, 20 ns, 40 ns, 60 ns  
80 ns 100 ns
- Line voltage ..... 100 to 240 V AC 50/60 Hz
- Power consumption ..... 90 VA

## ● Common specifications

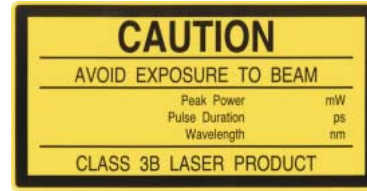
- Ambient operating temperature ..... +10 to +30°C
- Ambient storage temperature ..... -10 to +50°C
- Ambient operating/storage humidity ... 70% or less (non-condensing)

## LASER SAFETY

Conforming to international laser safety standards (USA:21 CFR 1040.10 CDRH, other areas: IEC Pub.825), 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.



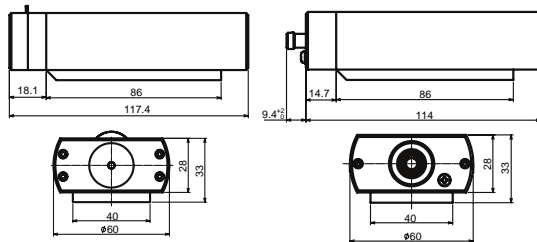
Description Label (Sample)



Caution Label

## DIMENSIONAL OUTLINES (Unit: mm)

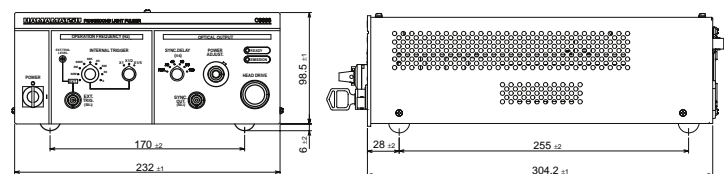
### ● M8903 Laser diode head (approx. 0.5 kg)



- Window output type -

- FC connector output type -

### ● C8898 Controller (approx. 5.1 kg)



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Cat. No. SSCS1055E02  
AUG/2003 HPK  
Created in Japan (PDF)

