

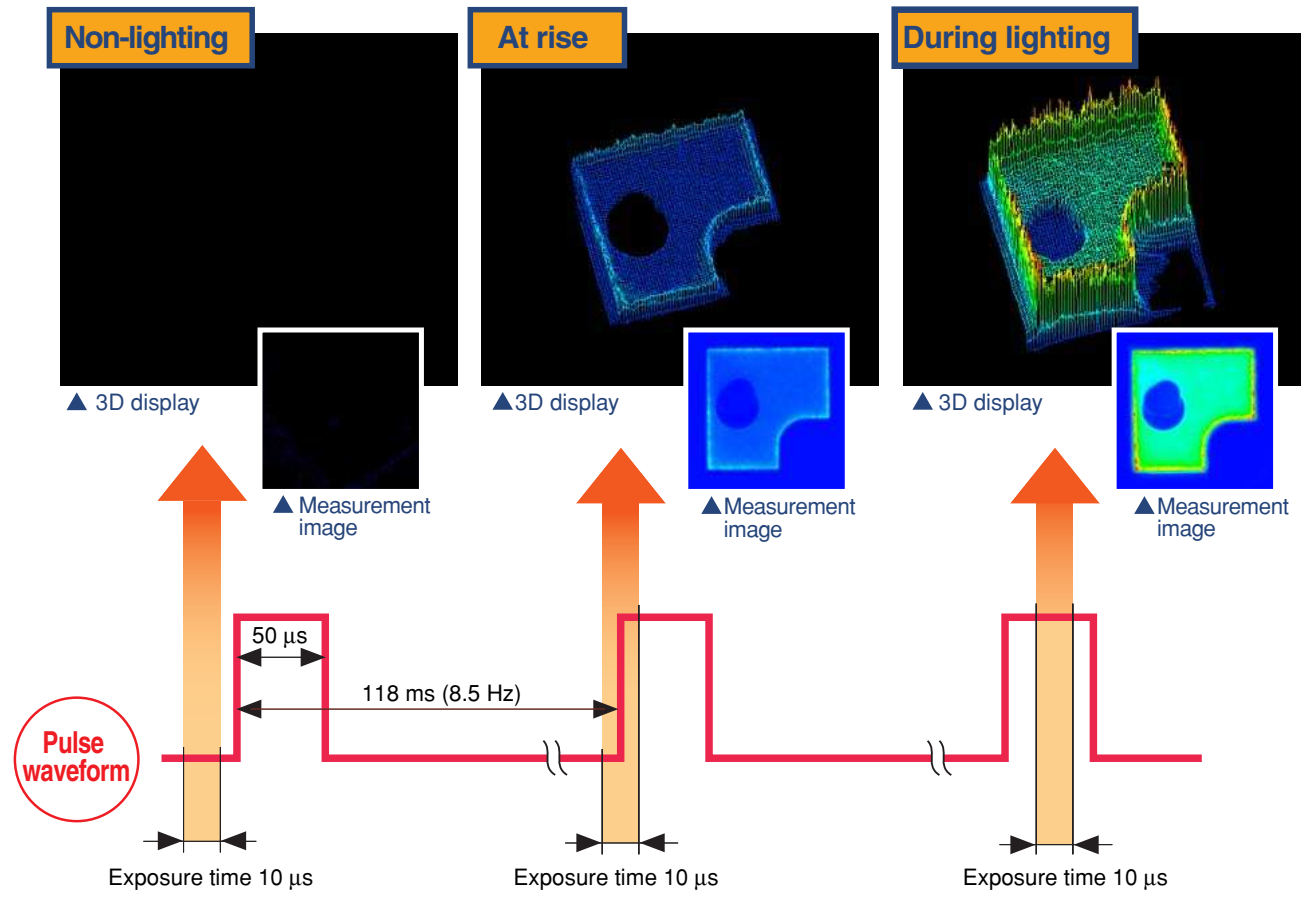
LED pulse emission evaluation system

Measures the emission state of each pulse from an LED when operated in pulsed mode. This system also performs time-resolved measurement within one pulse.



Recent LEDs offer high energy efficiency and so are increasingly being used for lighting or illumination. Even higher power LEDs are under development. Besides basic DC lighting, these high power illuminating LEDs also operate in pulsed mode using an inverter circuit. The LED pulse emission evaluation system using the Hamamatsu Laser Beam Profiler LEPAS-12 measures and analyzes the optical intensity distribution at the moment of LED pulse emission using an external trigger sync function and exposure time adjustment function.

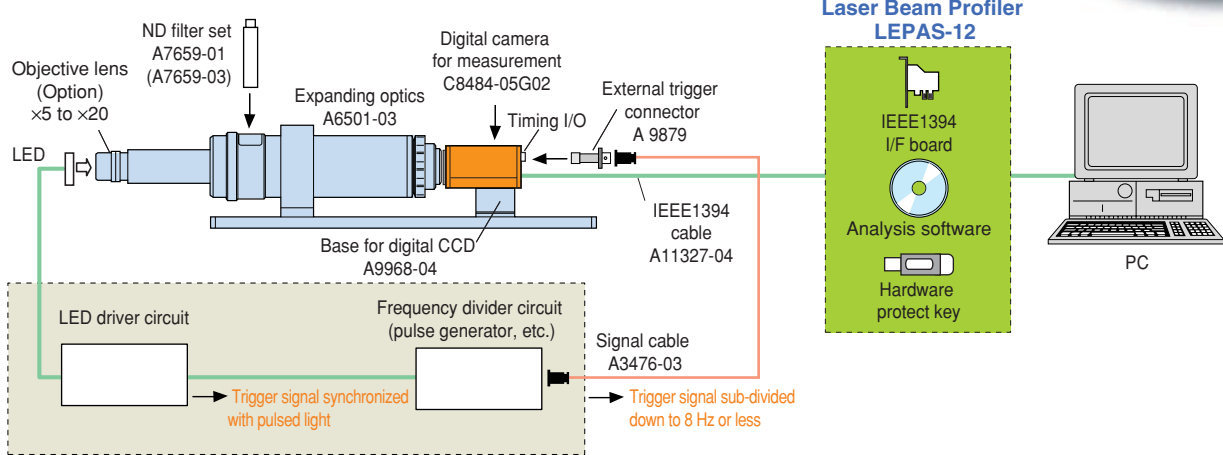
Measurement and evaluation of beam emission pattern by synchronizing with emission timing when LED is operated in pulsed mode.



LED pulse emission evaluation system



System configuration



Specifications

Optics specifications

Wavelength range	400 nm to 1100 nm		
Objective lens(1)	× 5	× 10	× 20
Measurement field-of-view	1.73 mm × 1.32 mm	867 μm × 660 μm	433 μm × 330 μm
Incident N. A.(2)	0.13	0.3	0.46
Working distance	22.5 mm	16.5 mm	3.1 mm
Read resolution	1.29 μm max.	0.645 μm max.	0.323 μm max.

(1) Selectable by objective lens (option).

(2) An N.A. sufficient for LED intensity distribution is required to accurately measurement.

* Please consult us if you need other specifications than shown above.

Electrical specifications

Maximum repetition frequency(3)	8.5 Hz	
Applicable pulse width	10 μs to 1 s	
Trigger signal specifications (4)	Amplitude	TTL level
	Termination impedance	680 Ω
	Detection edge	Rising edge
	Trigger pulse width	>10 μs

(3) If the LED emission repetition frequency is higher than the maximum repetition frequency of the system, then the frequency must be divided by using a pulse generator, etc.

(4) Measurement requires trigger signals synchronized with LED emission timing.

* When measuring a self-oscillating LED, electrical trigger signals must be generated from the emission signal.

Reducing filter set

Optics type	A7659-01	A7659-03
Wavelength	600 nm to 1100 nm	400 nm to 650 nm
Transmittance (1)	1/10, 1/25, 1/50, 1/100, 1/250, 1/500, 1/1000, 1/2500, 1/5000 1/10 000, 1/25 000, 1/50 000, 1/100 000	

(1) In terms of transmittance, the A7659-01 shows an approximate transmittance in the wavelength range from 650 nm to 850 nm, and the A7659-03 an approximate transmittance from 460 nm to 650 nm.

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