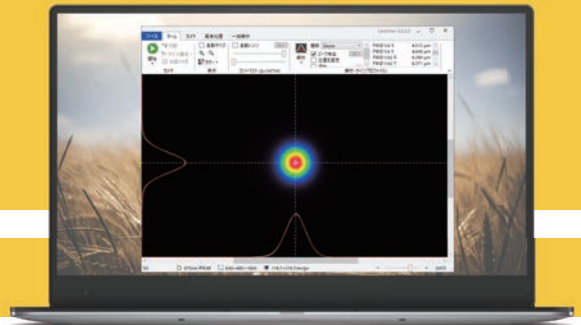
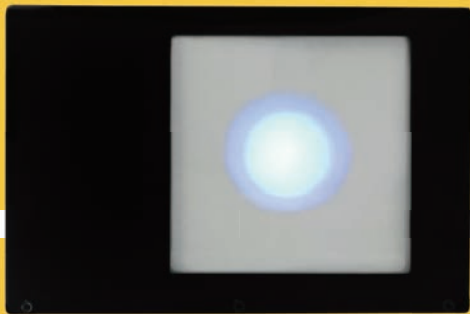


Kokyo's original product

Beam profiler



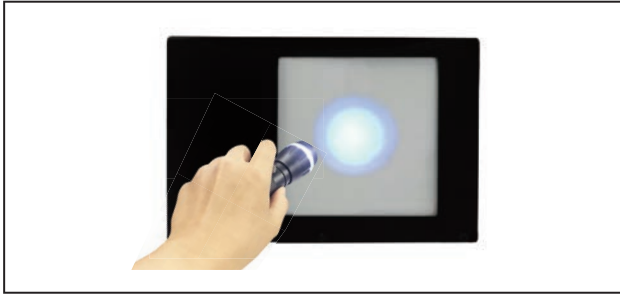
2022.04

<https://en.symphotony.com/products/laseview/>

Beam profiler

A beam profiler is a device that measures the beam diameter and spatial intensity distribution of a laser.

Hardware



LaseView-LHB series

Beam profiler for large diameter and high-power



LaseView-SRC series

Beam profiler with converter

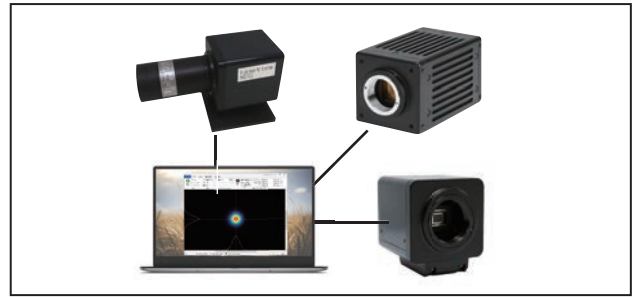
Software



LaseView

Beam profiler with M2 platform software

Set software and optimal camera



LaseView camera set

Use a commercially available camera as a beam profiler

Lineup

Wavelength	190nm	400nm	900-1100nm	1700nm
	Ultra-violet ray	Visible ray	Near infrared ray	
Beam diameter				
2 μm	 CA-DUV-BE Beam diameter: 2 μm - 100 μm	 CA50-NCG-BE Beam diameter: 2 μm - 100 μm	 CA-SWIR-BE Beam diameter: 4 μm - 150 μm	
100 μm				
5 mm		 CA50-NCG Beam diameter: 30 μm - 5 mm		 CA-SWIR Beam diameter: 120 μm - 5 mm
20 mm	 SRC-DUV Beam diameter: 5 mm - 10 mm		 SRC-LED Beam diameter: 5 mm - 10 mm	
50 mm				
200 mm				 LaseView-LHB series Beam diameter: 50 - 200 mm

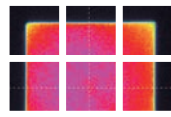
Beam profiler for large diameter and high-power

Features of LaseView-LHB

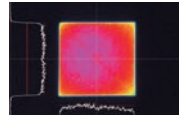
For large diameter

Until now, Beam profiling measurement with large diameter has required measuring by dividing it in several parts by making manual movement on the conventional profiler. It takes time and energy and also, divided measurement makes laser relative intensity unclear. LaseView-LHB solves such problems and it becomes possible to make large beam profiling at one time.

Beam profiling by divided measurement.



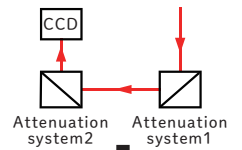
Beam profiling at one time by LaseView-LHB.



For high power

Conventional Beam profiling measurement with high power laser needed damping system because CCD camera may be easily destroyed. LaseView-LHB can measure as much as maximum 100 W/cm² laser beam without additional attenuation system by using a newly designed optical system. It simplifies optical system and prevents introducing distortion on laser beam.

Measurement using multiple damping systems



Measurement using LaseView-LHB

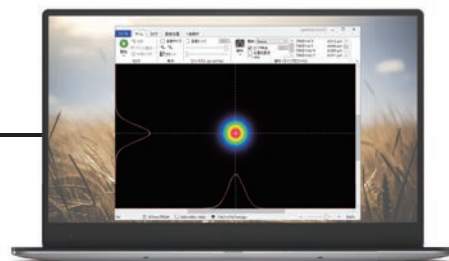


Example of using LaseView-LHB

Hardware: LaseView-LHB

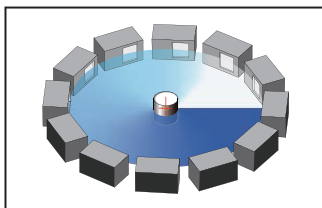


Software: LaseView

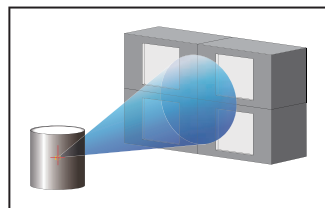


USB/LAN

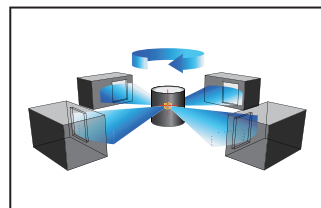
Laser analysis of LiDAR using multiple LHBs



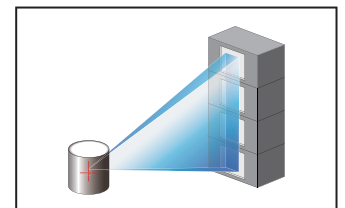
Put 12 sets of LHB into 30° angles away from each other.



Put 4 sets of LHB into two units each, horizontally and vertically



Put 4 sets of LHB around the circle with 90° angles away from each other.



Pile up 4 sets of LHB vertically.

How to choose LaseView-LHB

Measurement wavelength range	400 - 1100 nm	950 - 1700 nm	400 - 1700 nm		
Interface	USB3.0 (miniB)	GigE (RJ-45)			
Photosensitive area 50 × 50 (mm)	LaseView-LHB	LaseView-LHB-UHP	LaseView-LHB-GigE	LaseView-LHB-NIR-GigE	LaseView-LHB-VISNIR-GigE
Photosensitive area 100 × 100 (mm)	LaseView-LHB-100		LaseView-LHB-200-GigE	LaseView-LHB-100-NIR-GigE	LaseView-LHB-100-VISNIR-GigE
Photosensitive area 200 × 200 (mm)	LaseView-LHB-200		LaseView-LHB-200-GigE	LaseView-LHB-200-NIR-GigE	LaseView-LHB-200-VISNIR-GigE

LaseView-LHB series specifications

LaseView-LHB



LaseView-LHB-100



LaseView-LHB-200



Model	LHB / LHB-GigE	LHB-UHP	LHB-NIR-GigE	LHB-VISNIR-GigE
Photosensitive area (mm)	50 × 50	50 × 50	50 × 50	50 × 50
Optical resolution	Around 100 μm	Around 100 μm	Around 400 μm	Around 150 μm
Total incident power	Maximum 10W	Maximum 10W	Maximum 10W	Maximum 10W
Allowed incident light angle	±15°	±15°	±15°	±15°
Measurement wavelength range	400 - 1100 nm	400 - 1100 nm	950 - 1700 nm	400 - 1700 nm
Image sensor pixel(mm)	1280 × 960	1440 × 1080	320 × 256	1280 × 1024
Acquisition image pixel	1250 × 1250	1250 × 1250	400 × 400	1250 × 1250
A/D Conversion resolution	8 / 12 bit	8 / 12 bit	8/10/12/14 bit	8 / 10/12 bit
Frame rate	30 fps	228 fps	160 fps	160 fps
Exposure time	0.1 ms - 250 ms	1 μs - 30 s	0.001 ms - 10 ms	—
Interface	USB3.0 / GigE	USB3.0(miniB)	GigE(RJ-45)	GigE(RJ-45)
External trigger	Yes (3.3 - 24 V/3.5 mA)	Yes (3.3 - 12 V/850 Ω)	—	—
Price(without Tax)	US\$ 14,800 / US\$ 14,200	Please contact us	US\$ 30,000	Please contact us
Lead time	Around 1-1.5 month	Please contact us	Around 1-1.5 month	Please contact us

Model	LHB-100	LHB-100-NIR-GigE	LHB-100-VISNIR-GigE	LHB-200 / LHB-200-GigE
Photosensitive area (mm)	100 × 100	100 × 100	100 × 100	200 × 200
Optical resolution	Around 200 μm	Around 800 μm	Around 300 μm	Around 400 μm
Total incident power	Maximum 10W	Maximum 10W	Maximum 10W	Maximum 10W
Allowed incident light angle	±15°	±15°	±15°	±15°
Measurement wavelength range	400 - 1100 nm	950 - 1700 nm	400 - 1700 nm	400 - 1100 nm
Image sensor pixel(mm)	1600 × 1200	320 × 256	1280 × 1024	2048 × 1536
Acquisition image pixel	1600 × 1600	400 × 400	1250 × 1250	2000 × 2000
A/D Conversion resolution	8 / 12 bit	8 / 12 bit	8/10/12/14 bit	8/10/12 bit
Frame rate	20 fps	228 fps	130 fps	60 fps / 30 fps
Exposure time	0.1 ms - 30 s	0.001 ms - 10 ms	—	25 μs - 4 s / 20 μs - 30 s
Interface	USB3.0 / GigE	GigE(RJ-45)	GigE(RJ-45)	USB3.0 / GigE
External trigger	Yes (3.3 - 24 V/3.5 mA)	—	—	Yes (3.3 - 12 V/850 Ω)
Price	US\$ 19,800	US\$ 35,000	Please contact us	Please contact us
Lead time	Around 1-1.5 month	Around 1-1.5 month	Please contact us	Please contact us

Beam profiler with converter

Beam profiler with UV converter

Since UV light is converted to visible light and detected, high-sensitivity measurement is possible for light of 400 nm or less, which is less sensitive with ordinary cameras. The profile is about 510 mm.



Model **LaseView-SRC-DUV**

Product name	Beam profiler with UV converter
Light receiving area	Around 18.4 × 13.8mm(Horizontal × Vertical)
Pixel resolution	11.42 μm/pixel
Magnifying optical system magnification	0.35 times
Optical resolution	Less than 50 μm
Image sensor	CCD image sensor
Measurement wavelength range	200 - 390 nm
Number of image sensor pixels	1360 × 1024 (Horizontal × Vertical)
A/D conversion resolution	8 bit / 10 bit
Frame rate	12 fps (Maximum)
Exposure time	17 μs - 80 ms
Interface	USB2.0
Price	US\$ 4,000(without Tax) (without Software)
Lead time	Around 1 month after receiving P/O

Beam profiler with reduction converter

Dedicated to incoherent light. If the spread angle is large like an LED, the profile will be about 5 - 10 mm. Observation is difficult in this area with a camera set or LHB. In such cases, use a beam profiler with a reduction converter. The light receiving area is 18 × 13.5 mm and the optical resolution is about 30 μm.



Model **LaseView-SRC-LED**

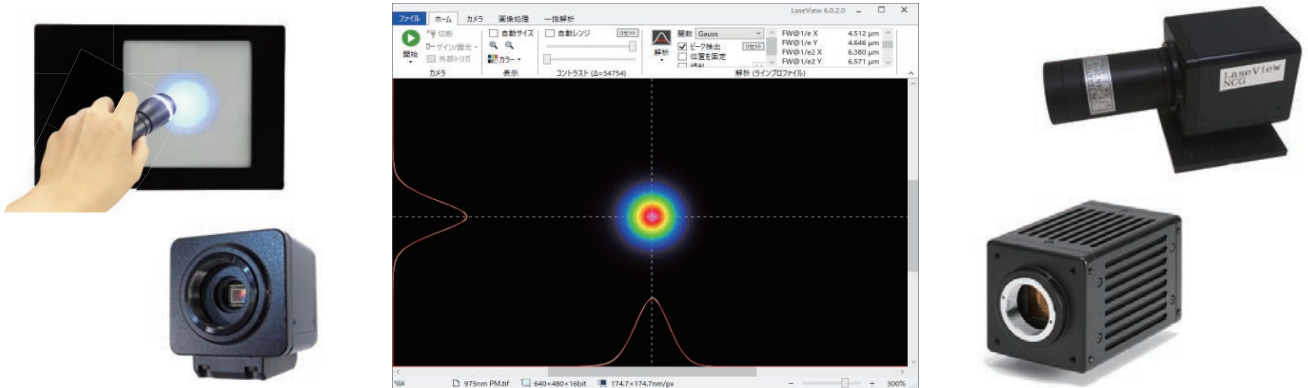
Product name	Beam profiler with reduction converter
Light receiving area	18 × 13.5 mm or more(Horizontal × Vertical)
Pixel resolution	11.42 μm/pixel
Magnifying optical system magnification	3.31 times
Optical resolution	Approx. 30 μm
Image sensor	CMOS image sensor
Measurement wavelength range	800 - 1000 nm
Number of image sensor pixels	2048 × 1536 (Horizontal × Vertical)
Gain	0 dB - 48 dB
A/D conversion resolution	8 bit / 12 bit
Frame rate	60 fps (Maximum)
Exposure time	25 μs - 4 s
Interface	USB3.0
Price	US\$ 3,500(without Tax) (without Software)
Lead time	Around 1 - 1.5 month

Beam profiler with M2 platform software

LaseView

“Beam Profiler with M2 Platform Software LaseView” is a highly functional and versatile laser beam profiler software that can use a commercially available CCD camera as a beam profiler.

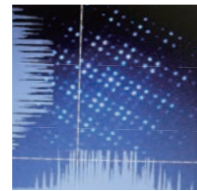
By using a commercially available CCD camera or CMOS camera, an extremely low-cost and practical beam measurement system can be easily constructed.



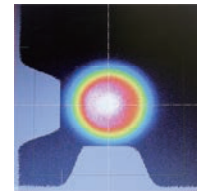
Features of LaseView

- ① M2 beam quality measurement function.
- ② Temporal beam pointing changes analysis function.
- ③ Beam divergence measurement function.
- ④ Images can be saved at set time intervals. (image logging function)
- ⑥ Multiple cameras can be connected to one software.
- ⑦ Beam measuring system can be structured by using commercially sold CCD or CMOS camera.

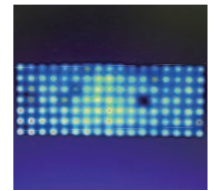
Laser pointer



LED light

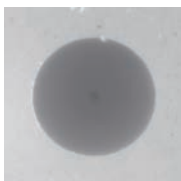
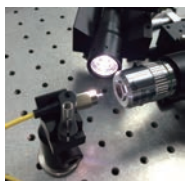


LED array



Example of Using LaseView

Optical microscope system



By simply attaching the optical tube to a CCD camera, the beam profiler can be used as a microscope. It is possible to observe various objects such as fiber end faces.

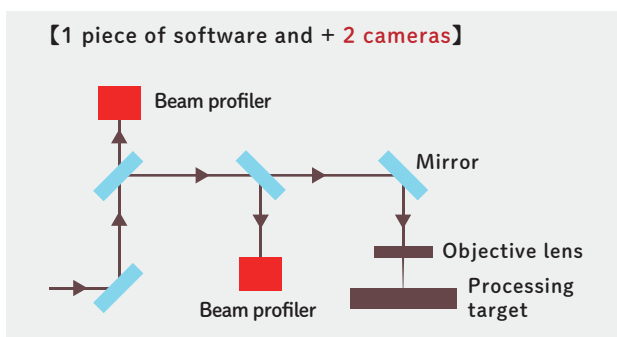
Optical fiber measurement system



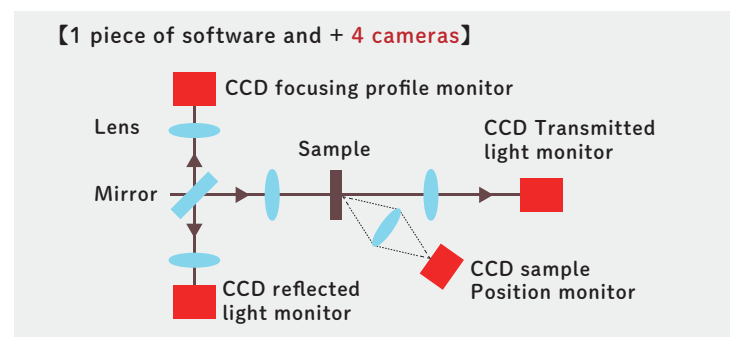
- Damage inspection
- the mode field diameter of the optical fiber is known.
- the intensity distribution is Gaussian.
- the connector is diagonally polished.

Structure of beam monitoring system

Laser beam position monitoring system for laser processing

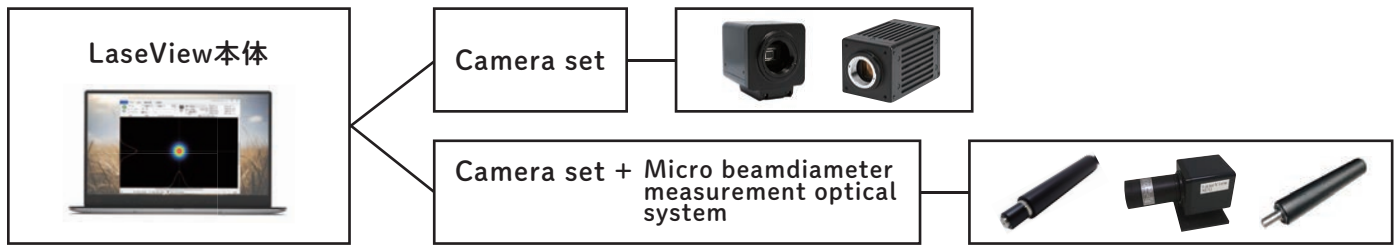


Laser beam monitoring system for laser processing (damage) testing





LaseView camera set series

LaseView comes with a set of cameras that are ideal for various conditions such as laser wavelength band and diameter and pulse / CW.



Camera set

		
Model number LaseView-CA50-NCG		
Measurement wavelength	190 - 1100 nm	
Beam diameter	30 μm - 5 mm	
CCD Camera	Pixel	1360 \times 1024
	CCD size	1/2"
	Pixel size	4.65 μm \times 4.65 μm
	interface	USB 2.0
Price(without Tax) ※1	US\$ 4,310	
Lead time	Around 4 - 6 weeks	

		
Model number LaseView-CA-SWIR		
Measurement wavelength	900 - 1700 nm	
Beam diameter	120 μm - 5 mm	
InGaAs Camera	Pixel	320 \times 256
	CCD size	6.4 \times 5.12 mm
	Pixel size	20 μm \times 20 μm
	interface	GigE
Price(without Tax) ※1	US\$ 20,000	
Lead time	Around 4 - 6 weeks	

※1 If you already have LaseView software, please subtract US\$ 3,000

Camera set + Micro beam diameter measurement optical system



Model number	LaseView-CA-SWIR-BE	LaseView-CA50-NCG-BE	LaseView-CA-DUV-BE
Measurement wavelength	900 - 1700 nm	400 - 1100 nm	190 - 400 nm
Beam diameter	4 μm - 150 μm	2 μm - 100 μm	2 μm - 100 μm
Micro beam diameter measurement optical system	magnification	About 30 times	About 37 times@808 nm
	NA	0.4	0.4
	Optical resolution	< 4 μm	< 2 μm
	Working distance length	About 1.7 mm	About 1.5 mm
Price (without Tax) ※1	US\$ 20,810	US\$ 5,120	US\$ 9,910
Lead time	Around 4 - 6 weeks	Around 4 weeks	Around 4 weeks

※1 If you already have LaseView software, please subtract US\$ 3,000