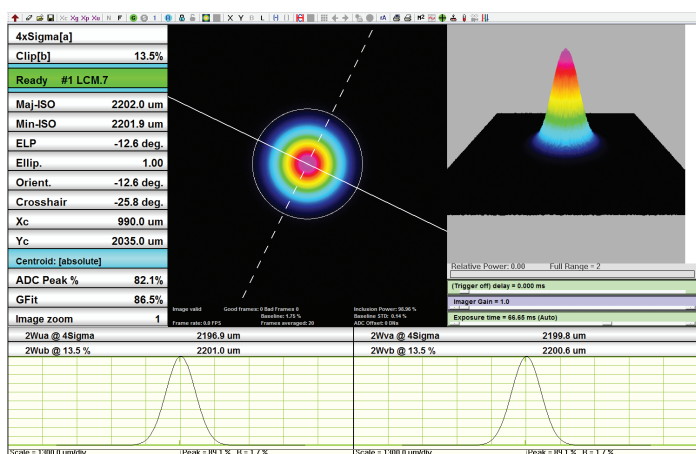




## WinCamD-LCM

### 1" CMOS Beam Profiling Camera, USB 3.0

With an 11.3 x 11.3 mm active area, 4.2 Mpixels, 5.5 x 5.5  $\mu\text{m}$  pixels, optical and electronic triggering of a global shutter, and an update rate to 60+ Hz, the WinCamD-LCM series is ideally suited to both CW and pulsed laser beam profiling. The high resolution CMOS detector means no comet tailing, and the shutter and trigger options simplify pulse capture.



The WinCamD-LCM is paired with DataRay's full-featured software which has no license fees, unlimited installations, and free software updates. It is ideal for applications including: CW and pulsed laser profiling; field servicing of laser systems; optical assembly; instrument alignment; beam wander and logging; R&D; OEM integration; quality control; and  $M^2$  measurement with available M2DU stages.



**WinCamD-LCM**  
1.8 x 1.8 x 0.8 in  
46 x 46 x 20 mm

### System Features

- 355 - 1150 nm (CMOS)
  - TEL sensor options for 1480 - 1610 nm
  - UV and 1310 nm options available
- 4.2 MPixel, 2048 x 2048 pixels, 11.3 x 11.3 mm active area
- 5.5  $\mu\text{m}$  pixels
- 60 fps @ 512 x 512, 30 fps @ 1024 x 1024, 12 fps @ 2048 x 2048
- Port-powered USB 3.0
- HyperCal™ – Dynamic Noise and Baseline Correction software
- MagND™ stackable magnetic ND filters or C-mount filters
- 2,500:1 Signal to RMS Noise
- Global shutter with TTL trigger
- Electronic auto-shutter, 85  $\mu\text{s}$  to 2 sec (44 dB)
- 12-bit ADC
- Isolated pulse triggering
- Parallel capture on multiple cameras
- Field-replaceable image sensors
- Relative power level display
- Window-free sensors standard for no fringing
- ISO 11146  $M^2$  option – beam propagation analysis, divergence, focus
- Available in specialized beam profiler systems
  - Industrial Laser Monitoring System (ILMS)
  - Large Beam Profiling System (LBPS)
  - Line Laser Profiling System (LLPS)

### Applications

- CW & pulsed laser profiling
- Field servicing of lasers and laser-based systems
- Optical assembly & instrument alignment
- Beam wander & logging
- $M^2$  Measurements

Additional Software Features

- XY profiles and centroids
  - Linear and logarithmic displays
  - Gaussian and Top Hat least squares fits
  - Ellipse Angle, Major, Minor, Mean Diameters
  - ISO 11146 compliant
- Background capture and subtraction
  - Image & Intensity Zoom
  - Linear and area filters
  - Image Averaging, 1 to continuous
  - Proprietary HyperCal™ Dynamic Noise and Baseline Correction

WinCamD-LCM Series Model Specifications:

Specification	Detail	Notes
Wavelength range:	<b>S-WCD-LCM-UV:</b> 190-1150 nm <b>S-WCD-LCM:</b> 355-1150 nm <b>S-WCD-LCM-1310:</b> 355-1350 nm <b>S-WCD-LCM-TEL:</b> 1480-1610 nm	Incl. MagND-UV filters: ND 1, 2, 4, and MagND filters: ND 1, 2, 4 Incl. MagND filters: ND 1, 2, 4 Incl. MagND filters: ND 1, 2, 4, 1290 nm long pass filter Incl. MagND filters: ND 1, 2, 4, 1290 nm long pass filter  C-mount filters also available
Image area (mm):	11.3 x 11.3	
Sensor:	1" CMOS	
Resolution:	4.2 MPixel (2048 x 2048)	
Pixel dimensions (µm):	5.5 x 5.5	S-WCD-LCM-TEL: effective pixel size is 25 µm
Min. beam (10 pixels):	55 µm	S-WCD-LCM-TEL: 250 µm
Shutter type:	Global	
Frame rate @ 2048 x 2048:	≥ 12 Hz	
Frame rate @ 1024 x 1024:	≥ 30 Hz	
Frame rate @ 512 x 512:	≥ 60 Hz	
Max. 'every pulse' PRR:	≥ 12.5 Hz	
Single pulse capture max PRR:	USB 3.0: 12.6 kHz USB 2.0: 6.3 kHz	
Beam Diameter Accuracy	±2% (when used as specified)	
Signal to RMS Noise:	2,500:1, 34/68 dB opt/ elec.	
Electronic Shutter:	25,000:1, 85 µs to 2s USB 3.0 12,500:1, 158 µs to 2s USB 2.0	
ADC:	12-bit	
Interface:	USB 3.0	

Outline & Mounting (3 x #8-32), shown to scale

