

Compact, Portable, Port-Powered, USB 2.0 10.6 μm Beam Profiling for Windows 7, 8, 32 or 64 bit operating systems

Features

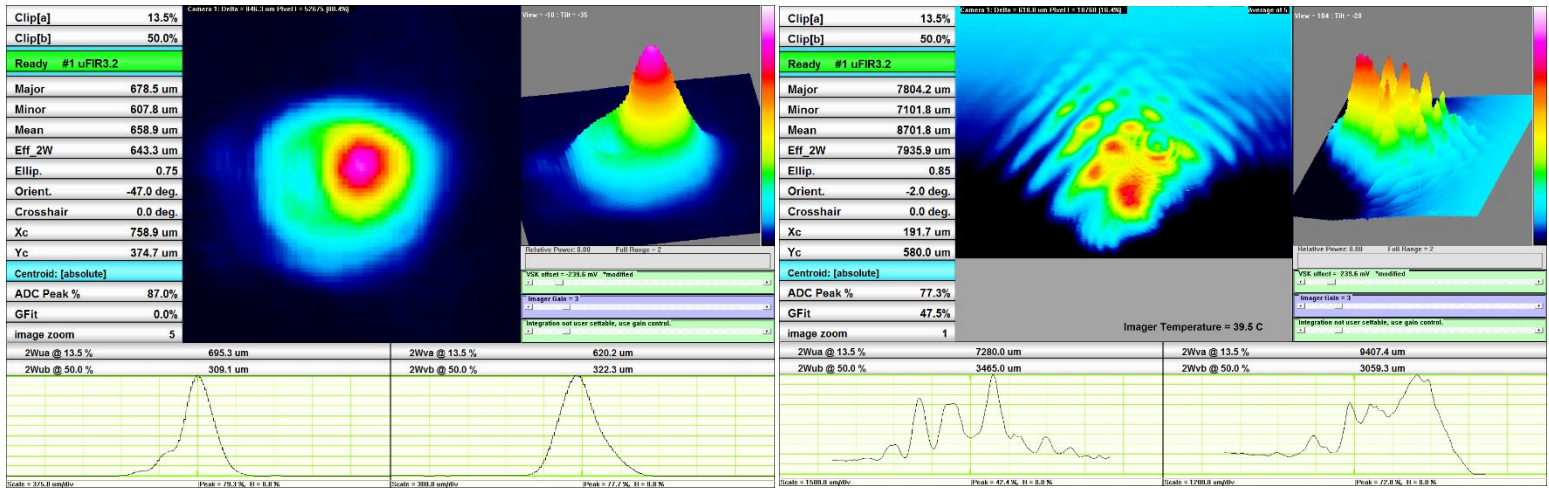
- ◇ **17 μm pixel pitch, 640 x 480 pixels, WinCamD-FIR8-14-HR**
- ◇ **8 to 14 μm** wavelength range microbolometers
- ◇ **Port Powered USB 2.0**; flexible 3 m cable, *no power brick*
- ◇ **14-bit ADC**, 4 MB image buffer & on-board microprocessor
- ◇ **16 ms time constant**
- ◇ **No Chopper** Measure Pulsed or CW Beams
- ◇ **Room Temperature** - no cooling required



2.40 x 2.65 x 1.1" (0.9" without filter)
[61 x 67 x 27.9 mm]

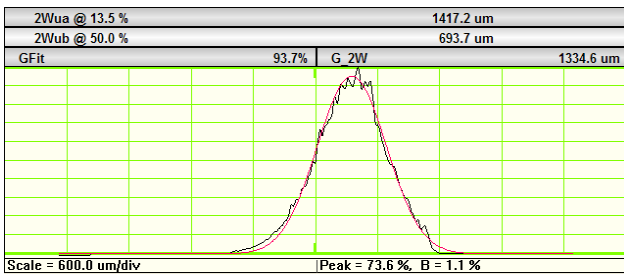
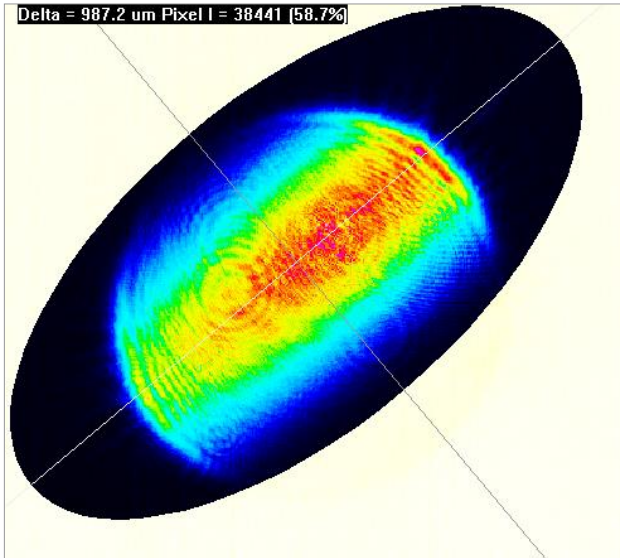
Applications

- ◇ MIR/FIR/ CO₂ laser profiling
- ◇ Field servicing of CO₂ lasers and laser-based systems
- ◇ Optical assembly & instrument alignment
- ◇ Beam wander & logging

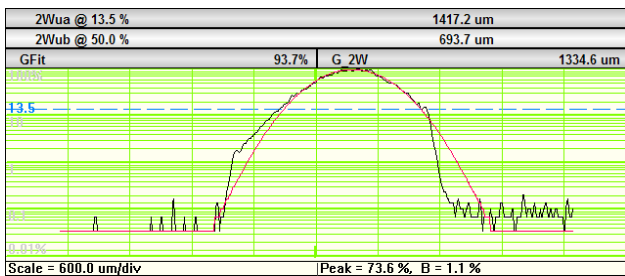


Full featured software; 2D, 3D and Log display with OCX interface to LabVIEW or other programs
 Shown above is a 3 micrometer incoherent source. Shown above laser 2.94 μm λ, 13 mW laser.

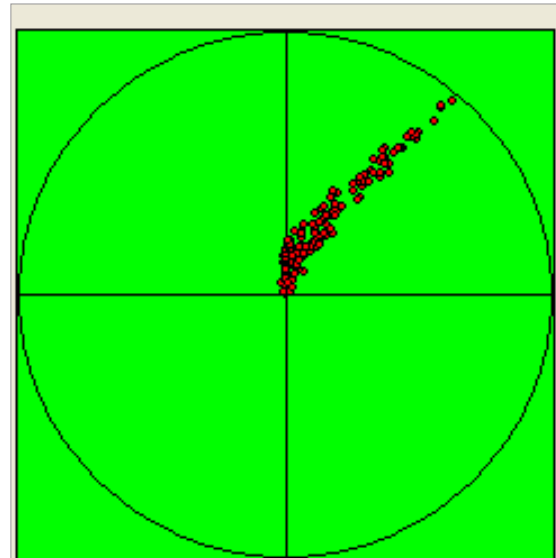
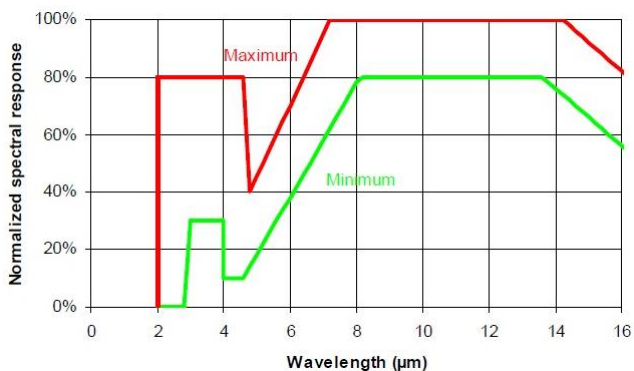
Powerful Beam Analysis Software



Standard Linear Profile with Gaussian Fit.



Logarithmic Profile shows more detail near baseline



Scale radius = 30 um
 Samples taken = 146
 Max deviation = 28.7 um
 Last deviation = 18.9 um
 Mean = 9.9 um RMS = 12.20 um (12.24)

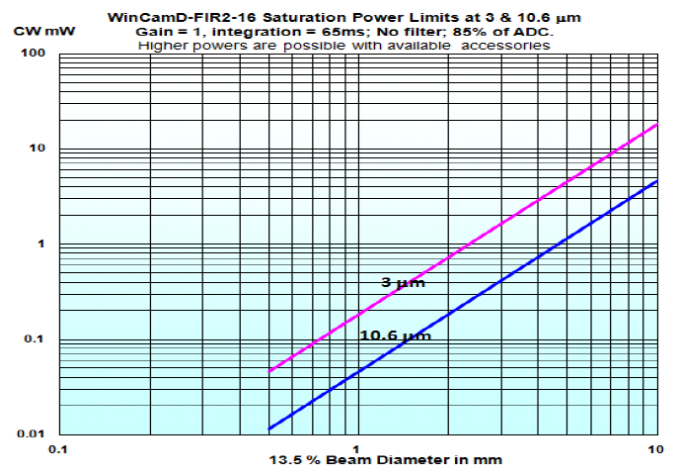
Time interval = minimum

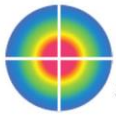
Samples to be recorded = 8192

Clear	Replay	To Clipboard
Normalize	Replay Fast	Save as bitmap
To Excel	Sequence Off	Export to Paint

Beam Wander on a drifting Laser

Up to 8192 samples at a User Set interval.
 Mean, RMS and Max. deviation. Replay Fast or Slow
 Export to Excel, Paint, Bitmap or Clipboard



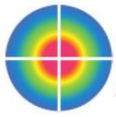


Features:

- ◇ Digital serial link for EMI immunity
- ◇ XY profiles and centroids
- ◇ Linear and logarithmic displays
- ◇ Gaussian and Top Hat least squares fits
- ◇ Ellipse Angle, Major, Minor, Mean Diameters
- ◇ Background capture and subtraction
- ◇ Image & Intensity Zoom
- ◇ Linear and area filters
- ◇ Image Averaging, 1 to continuous
- ◇ PC Or Mac-Intel Operation

WinCamD-FIR8-14-HR Specifications: [Preliminary specifications- subject to change without notice]

Wavelength Ranges	8 to 14 μm
Compact	2.40" x 2.65" x 1.1" [61 x 67 x 27.9 mm]
Interface	USB 2.0 for laptops & desktops. 3 m standard thin cable, 5 m option.
ISO 11146	Beam profile Second moment processing
Certification	RoHS, WEEE, CE
Measurable Sources	CW beams, Pulsed sources.
Measured Beam Powers	<i>See the Saturation Beam Power/Pulse Energy Graph and Notes, above.</i>
Manual Beam Attenuation:	Contact Application Engineer for options
Measurement Accuracy	5 μm processing resolution for interpolated diameters. Absolute accuracy is beam profile dependent – $\sim 10 \mu\text{m}$ accuracy is frequently achievable. Centroid accuracy is also beam dependent. It can be as good as $\pm 10 \mu\text{m}$ since it is arithmetically derived from all pixels above the centroid clip level.
Pixel Count & H x V:	307 kPixel 640 x 480
Sensor image area (mm):	10.88 x 8.16
Pixel dimension (μm):	17 x 17
Min. beam (10 pixels):	170 μm
Shutter type:	Rolling
Max. full frame rate:	5-8 Hz
Max. 'every pulse' PRR:	5-8 Hz
Single pulse capture PRR:	Dependent on Duty cycle- contact DataRay
Signal to RMS Noise: (Opt./Elec.* dB):	TBD
ADC:	14-bit
NETD:	<0.05 K
Multiple Heads:	1 – 8 cameras. Parallel capture, serial read.
Measured & Displayed Profile Parameters	<p>Beam Diameter: Diameter at two user set Clip levels Gaussian & Second Moment beam diameters Equivalent diameter above a user defined Clip level Equivalent Slit and Knife Edge diameters</p> <p>Beam Fit: Gaussian & Top Hat profile fit & % fit Equivalent Slit profile</p> <p>Ellipticity: Major, Minor & Mean diameters. Auto-orientation of axes.</p> <p>Centroid Position: Relative and absolute Intensity Weighted Centroid and Geometric Center Beam Wander Display and Statistics</p> <p>Smoothing Filter: Triangular running average up to 10% FWHM</p>
Displayed Profiles & Plots	X-Y Profiles, 2D, 3D Plots. Zoom to x10 10, 16, 256 or max. colors or gray. Contoured display at 10 and 16 color.



Processing Options

Image & profile averaging, 1, 5, 10, 20, Continuous
Background Capture and Subtraction

*.job files save all WinCamD custom settings for particular test configurations

Pass/Fail display

On-screen, in selectable Pass/Fail colors. Ideal for QA & Production.

Averaging

Beam dimension running average up to 50 samples

Log data and statistics

Min., Max., Mean, Standard Deviation. Up to 4096 samples

Relative Power Measurement

Rolling histogram based on user's initial input. Units of **mW**, **µJ**, **dBm**, **%** or user choice (relative to a reference measurement input)

Fluence

Fluence, within user defined area

Camera Head Weight

155 gm (5.5 oz);

Minimum Computer Requirements:

2 GHz processor running Windows 7/ Vista/XP, 32 or 64-bit; 1 GB RAM; 60 GB Hard Drive space; 1024 x 768 monitor, USB 2.0 hi-power (500 mA) port. PC or Intel- Mac

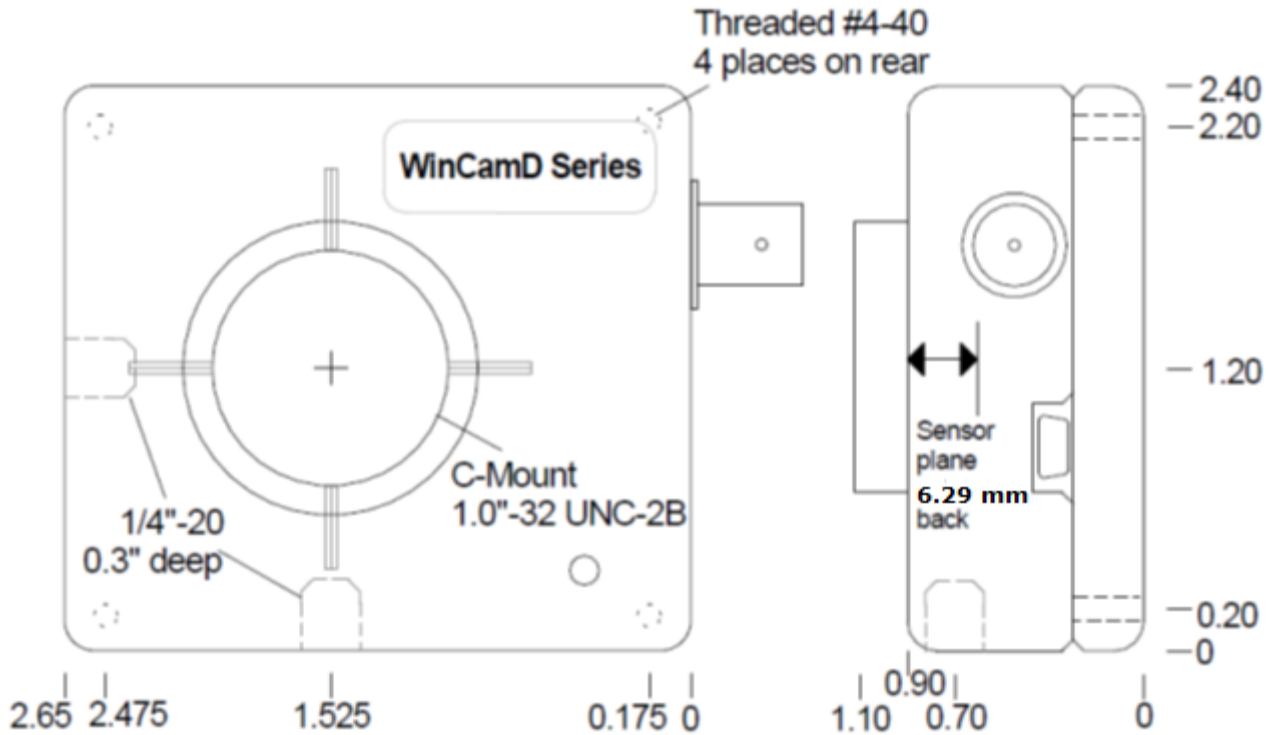
Ordering Information

◇ 1 Year Warranty

◇ Free Software Upgrades

◇ 30 Day Sale or Return on qualified Evaluation POs

A Complete System comprises: USB 2.0 Camera, ND filter, Software, 3 m (10 ft) Cable, User Manual.



Model S-WCD-8-14-HR