BladeCam2
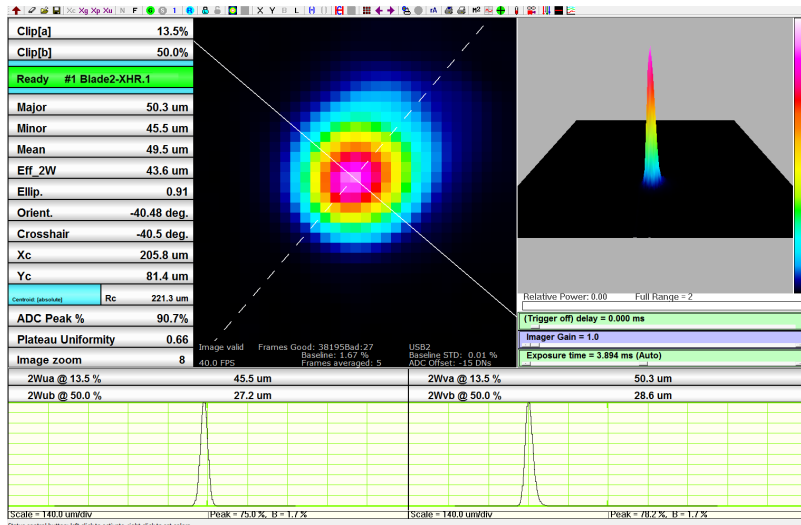
½" CMOS Beam Profiling Camera, Ultra Compact, 190 – 1610* nm, USB 3.0

Updated with USB3 connectivity and other improvements, the BladeCam2™ offers an enhanced BladeCam™ beam profiling experience. With pixel size to 3.2 µm, the high resolution and highly compact BladeCam2™ beam profilers have a thickness of only 0.50" (12.84 mm) for insertion into tight optical trains and OEM applications.

S-BC-XHR High Resolution beam profiling
Image of a 675 nm beam, 50 µm diameter
The advantage of 3.2um square pixels is clear.

The BladeCam2™ is paired with DataRay's full featured, highly customizable, user-centric software which has no license fees, unlimited installations, and free software updates. It is perfect for applications including: CW 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 stage.

BladeCam2-XHR/HR
46x46x13 mm

System Features

- 355 to 1150 nm, CMOS detector, 190 -1610 nm options
- 3.2/1.3 MPixel, 2048 x 1536 or 1280 x 1024 pixels, ½" active area
- 3.2/ 5.2 µm pixels
- Port-powered USB 3.0/ 2.0; 3 m cable, no power brick
- HyperCal™ – Dynamic Noise and Baseline Correction software
- C-Mounted filters ND 1,2 & 4 with camera, 0.5, 1, 2, 3 ,4, and 5 options available
- Multiple Cameras (up to eight)
- ISO 11146 compliant
- RoHS, WEE and CE Certified
- 1,000:1 Signal to RMS Noise
- Rolling shutter (not suitable for pulsed lasers)
- Electronic auto-shutter
- 10-bit ADC
- Field-replaceable image sensors
- Window-free sensors standard for no fringing
- M² option – beam propagation analysis, divergence, focus

Applications

- CW & High Rep. Rate Pulsed laser profiling
- Field servicing of lasers and laser-based systems
- Optical assembly & instrument alignment
- Beam wander & logging
- M2 Measurements
- Small form factor for tight optical trains

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
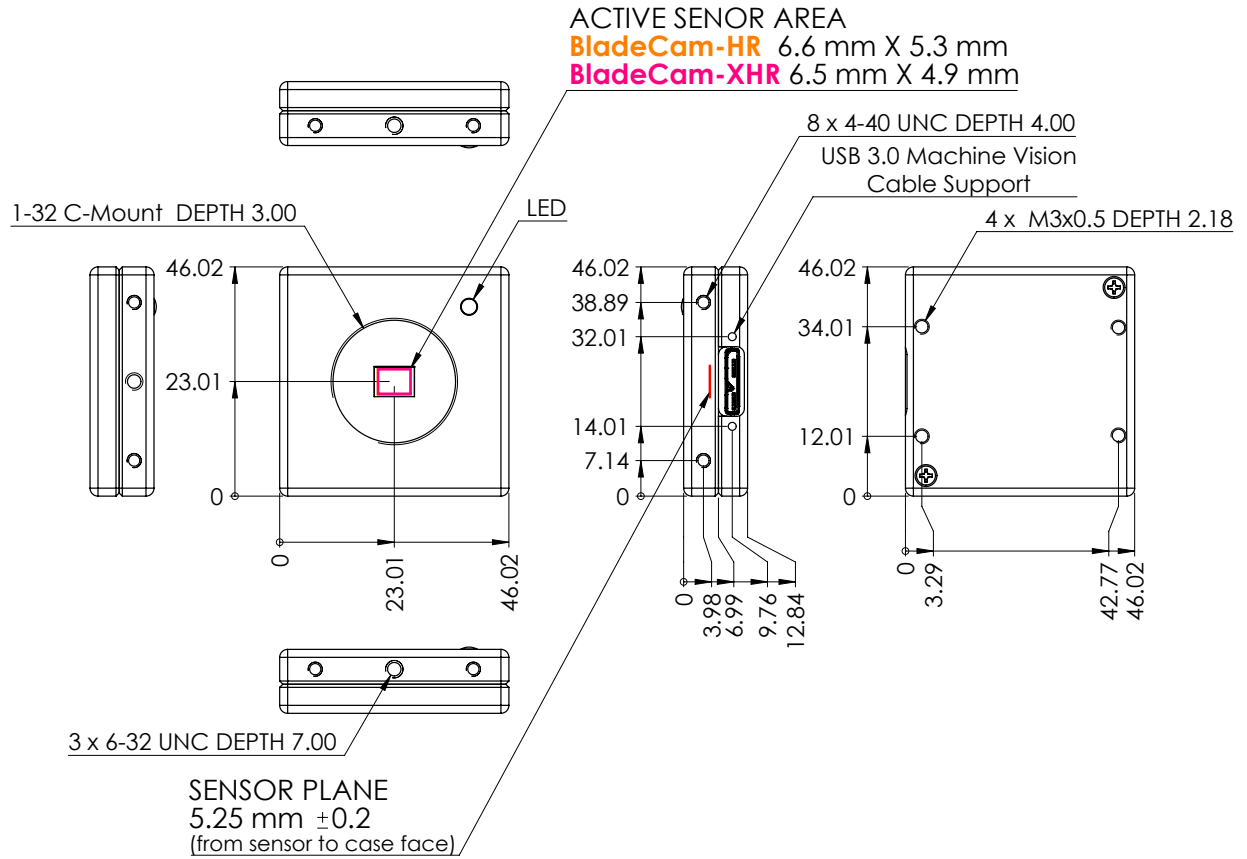- Proprietary HyperCal™ Dynamic Noise and Baseline Correction

WinCamD-BladeCam2™ Series Model Specifications:

BladeCam2™	BC2-XHR	BC2-HR	BC2-HR-TEL
Pixel Count &	3.2M Pixel	1.3 M Pixel	1.3 M Pixel
H x V:	2048 x 1536	1280 x1024	1280 x1024
Sensor image area (mm):	6.5 x 4.9	6.6 x 5.3	6.6 x 5.3
Pixel dimension (µm):	3.2 x 3.2	5.2 x 5.2	25 (due to phosphor)
Min. beam (10 pixels):	32 µm	52 µm	250 µm
Wavelength Range:	355-1100 nm	355-1100 nm	1480-1680 nm
Shutter type:	Rolling	Rolling	Rolling
Max Frame rate: Frame rate @ 2048 x 1536	> 6 Hz	N/A	N/A
Frame rate @ 1024 x 1024:		> 16 Hz	
Frame rate @ 512 x 512:		> 35 Hz	
Max. 'every pulse' PRR:		Not suitable for pulse capture	
Single pulse capture PRR:		Not suitable for pulse capture	
Signal to RMS Noise (Optical/Electrical):	1,000:1 (30/60 dB)	1,000:1 (30/60 dB)	1,000:1 (30/60 dB)
Electronic Shutter Dynamic Range:	40 µs to 1s 44dB	40 µs to 500ms 41dB	40 µs to 500ms 41dB
ADC:	10-bit	10-bit	10-bit
Interface:	USB 3.0/2.0	USB 3.0/2.0	USB 3.0/2.0

Options	Details
S-BC2-HR-UV	Sensor has microlenses removed. Includes standard ND-1, ND-2, ND-4 filters and reflective NDL-1-UV, NDL-2-UV, NDL-4-UV filters with a C-mount adapter for profiling down to 190 nm.
S-BC2-XHR-UV	Includes standard ND-1, ND-2, ND-4 filters and reflective NDL-1-UV, NDL-2-UV, NDL-4-UV filters with a C-mount adapter for profiling down to 190 nm.
S-BC2-HR-1310	Includes standard ND-1, ND-2, ND-4 filters and a long pass filter with C-mount adapter for profiling out to 1350 nm.
S-BC2-XHR-1310	Includes standard ND-1, ND-2, ND-4 filters and a long pass filter with C-mount adapter for profiling out to 1350 nm.

ACTIVE SENOR AREA
BladeCam-HR 6.6 mm X 5.3 mm
BladeCam-XHR 6.5 mm X 4.9 mm

8 x 4-40 UNC DEPTH 4.00
USB 3.0 Machine Vision
Cable Support

4 x M3x0.5 DEPTH 2.18

1-32 C-Mount DEPTH 3.00

LED

46.02
23.01
0

0
23.01
46.02

46.02
38.89
32.01
14.01
7.14
0

0
3.98
6.99
9.76
12.84

46.02
34.01
12.01
0

0
3.29
42.77
46.02

3 x 6-32 UNC DEPTH 7.00

SENSOR PLANE
5.25 mm ±0.2
(from sensor to case face)

海纳光学

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