## Scanning Slit Beam Profilers

<table>
<thead>
<tr>
<th></th>
<th>Beam'R2</th>
<th>BeamMap2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Key Features</strong></td>
<td>Integrated X and Y profiles</td>
<td>Real-time XYZθΦ measurement and focus finding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Real-time pointing, divergence, and M(^2) measurements</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td></td>
<td>USB 2.0 Port-powered</td>
</tr>
<tr>
<td><strong>CW or Pulsed?</strong></td>
<td></td>
<td>CW, Pulsed Minimum PRR (Si detector) = ([500/(\text{Beam diameter in (\mu)m})]) kHz</td>
</tr>
<tr>
<td><strong>Wavelengths</strong></td>
<td></td>
<td>Si: 190 - 1150 nm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>InGaAs: 650 - 1800 nm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Si + InGaAs: 190 - 1800 nm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Si + InGaAs, extended 190 - 2500 nm</td>
</tr>
<tr>
<td><strong>X-Y-Z Profiles, plus Θ-Φ</strong></td>
<td>N/A</td>
<td>Yes, unique patented capability</td>
</tr>
<tr>
<td><strong>Best Resolution</strong></td>
<td></td>
<td>0.1 (\mu)m</td>
</tr>
<tr>
<td><strong>Smallest Beam</strong></td>
<td></td>
<td>2 (\mu)m (Knife Edge mode)</td>
</tr>
<tr>
<td><strong>Largest Beam</strong></td>
<td></td>
<td>See limits below this table</td>
</tr>
<tr>
<td><strong>Update Rate</strong></td>
<td></td>
<td>5 Hz real-time (adjustable 2-10 Hz)</td>
</tr>
<tr>
<td><strong>M(^2) Measurement</strong></td>
<td>Yes - with M2DU-BR accessory</td>
<td>Yes - real-time</td>
</tr>
<tr>
<td><strong>Locate Focus</strong></td>
<td></td>
<td>Yes - with M2DU-BR accessory</td>
</tr>
<tr>
<td><strong>Pointing/Divergence</strong></td>
<td>Yes - with M2DU-BR accessory</td>
<td>Yes - real-time</td>
</tr>
<tr>
<td><strong>Switched Gain (Opt. dB)</strong></td>
<td>32 dB</td>
<td></td>
</tr>
</tbody>
</table>

**Scanning Slit Beam Profilers**

- Maximum Beam Size. Dimensions in mm.
- Si Detector
- InGaAs
- Extended InGaAs

www.dataray.com | +1 530-395-2500 | sales@dataray.com
Beam Profiling Cameras

<table>
<thead>
<tr>
<th>LCM</th>
<th>HR</th>
<th>XHR</th>
<th>UCD12</th>
<th>TaperCam</th>
<th>IR-BB</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image 1" /></td>
<td><img src="image2.png" alt="Image 2" /></td>
<td><img src="image3.png" alt="Image 3" /></td>
<td><img src="image4.png" alt="Image 4" /></td>
<td><img src="image5.png" alt="Image 5" /></td>
<td><img src="image6.png" alt="Image 6" /></td>
</tr>
</tbody>
</table>

Imaged areas shown actual size.

Image area (mm)
- LCM: 11.3 x 11.3
- HR: 6.6 x 5.3
- XHR: 6.5 x 4.9
- UCD12: 6.3 x 4.8
- TaperCam: 20 x 15
- IR-BB: 10.88 x 8.16

Sensor
- LCM: 1" CMOS
- HR: 1/2" CMOS
- XHR: 1/2" CMOS
- UCD12: 1/2" CCD
- TaperCam: 2/3" CCD
- IR-BB: Vanadium oxide (VOx) microbolometer

Resolution
- LCM: 2048 x 1024
- HR: 1280 x 1024
- XHR: 1280 x 1024
- UCD12: 1360 x 1024
- TaperCam: 1360 x 1024
- IR-BB: 640 x 480

Pixel count
- LCM: 4.2 MPixel
- HR: 1.3 MPixel
- XHR: 3.1 MPixel
- UCD12: 1.4 MPixel
- TaperCam: 1.4 MPixel
- IR-BB: 307 KPixel

Pixel dimensions (µm)
- LCM: 5.5 x 5.5
- HR: 5.2 x 5.2
- XHR: 3.2 x 3.2
- UCD12: 4.65 x 4.65
- TaperCam: 15 x 15
- IR-BB: 17 x 17

Wavelength range
- 355 - 1150 nm standard, see next page for others

Interface
- USB 3.0 Port-powered
- USB 2.0 Port-powered

CW or Pulsed?
- CW, Pulsed, Auto Trigger
- CW, Pulsed > 1 kHz

Shutter type
- Global
- Rolling

Single pulse capture
- 125 kHz
- 20 kHz

Min. beam (10 pixels) (µm)
- ~55
- ~32
- ~47
- ~150

Max. frame rate (Hz)
- 60+
- 20+
- 30 (7.5 for export)
- ≥1000.1

Signal to RMS Noise
- 2500:1
- 1000:1

Electronic Shutter
- Dynamic Range (dB)
- 44
- N/A

ADC
- 12-bit
- 10-bit
- 14-bit
- 14-bit
- 14-bit

Form factor
- LCM
- BladeCam or WinCamD
- WinCamD
- IR-BB

Ultraviolet and Telecom/NIR
- UV Converters
  - Compatible with all standard cameras
  - Image Areas to 47 mm
  - Converts wavelengths down to x-ray to visible

Telecom/NIR
- Phosphor coating converts IR to visible
- Economical beam profiling for 1480-1610 nm

THz
- Broadband
  - MWIR/FIR: 2 to 16 µm

Attenuation Options
- Polarization Preserving Beam Sampler (PPBS)
  - Dual wedged beam sampler
  - UV-FS, ZnSe, CaF2, BaF2 options for broad spectral coverage
  - High power handling with optional Beam Trap (BT-50) for beams up to 50W

Compact Beam Sampler (CBS)
- High Reflectance Mirror with high power handling
- Short optical path length (< 30 mm)
- Great for focused beams

Custom Systems
- Large Beam Profiling Systems (LBPS)
  - Objective planes up to 300 mm
  - Reflective system with speckle reduction
  - Transmissive system for non-coherent sources

LensPlate2
- Custom lens pairs designed for
  - Magnifying very small focal spots
  - Re-imaging inaccessible beam waists
- Factory calibrated

Translation Stages
- 50 and 200 mm translation stages
- Fully automated in DataRay software
- ISO11146 compliant M2 and divergence measurements
- Direct measurement of line lasers up to 200 mm in length with LLPS

Translation Stages
- LLPS-200-LCM

Attenuation Options
- PPBS

Translation Stages
- LLPS-2B04-CTA