EASILY INTERFACED. EASILY INTEGRATED.

Light, robust, and easy to operate, the new modular line from Telops is specifically designed to be integrated into complex optical systems.

Available in MW or LW, this line of products allows you to get highly contrasted images for a large variety of applications, such as process control, monitoring, and surveillance. Get sharp, crisp images without the hassle.

KEY BENEFITS

HIGH-SPEED DATA
High-performance electronics provide full frame thermal images up to 200 Hz.

ADVANCED IMAGE PROCESSING
The camera modules provide customizable automatic gain control adjustment, video detail enhancement, and auto-adaptive dynamic range filters to adjust to any type of mission.

HARDWARE MODULARITY
The camera modules have the capability to adjust to any type of system, and can thus communicate with a large selection of motorized optical systems. On request, Telops may also propose alternative IR detector options.

EXAMPLE OF A TYPICAL USE

Surveillance of urban areas
**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th><strong>THE R100 LINE.</strong></th>
<th><strong>R100 M</strong></th>
<th><strong>R100 L</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DETECTOR TYPE</strong></td>
<td>MCT</td>
<td>MCT</td>
</tr>
<tr>
<td><strong>SPECTRAL RANGE</strong></td>
<td>3.7 µm to 4.8 µm (1.5 µm to 5 µm F/3 optional)</td>
<td>7.7 µm to 9.3 µm</td>
</tr>
<tr>
<td><strong>SPATIAL RESOLUTION</strong></td>
<td>640 x 512 pixels</td>
<td>640 x 512 pixels</td>
</tr>
<tr>
<td><strong>DETECTOR PITCH</strong></td>
<td>15 µm</td>
<td>15 µm</td>
</tr>
<tr>
<td><strong>APERTURE SIZE</strong></td>
<td>F/2 or F/4</td>
<td>F/2</td>
</tr>
<tr>
<td><strong>FRAME RATE</strong></td>
<td>Tunable, max 115 Hz</td>
<td>Tunable, max 230 Hz</td>
</tr>
<tr>
<td><strong>TYPICAL NETD</strong></td>
<td>&lt; 25 mK</td>
<td>&lt; 25 mK</td>
</tr>
<tr>
<td><strong>COOLER MTBF</strong></td>
<td>10 000 hrs</td>
<td>10 000 hrs</td>
</tr>
<tr>
<td><strong>WEIGHT</strong></td>
<td>1.4 kg</td>
<td>1.4 kg</td>
</tr>
</tbody>
</table>

**INCLUDES**

- Camera control: RS232/422
- Video output: PAL/NTSC (HDMI av. upon request)
- Trigger In/Out LV TTL
- Real-time processing (BPR-NUC)
- Manual/Auto Gain & Offset Control
- Real-time adjustable video enhancement
- Palette and symbology management
- Third-party lens control interface connector: RS232/422

**ENVIRONMENT**

- Power: 18 to 32 VDC, < 24 W steady state
- Operational: -32 to +65 °C
- Storage: -40 to +70 °C
- Shocks: transport and operational, 30 g, 11 ms ½ sinus
- Vibrations: transport and operational, 2.1 g RMS 10-500 Hz

**DELEVERABLES**

- Command Line Control and Windows Software
- Optical head
- Electronic User Guide, Quick-Start Guide, and ICD (ENG)

**OPTIONS**

- 24 VDC Power Supply
- Tool Cable: Power, Serial Control, PAL/NTSC video (Consult Telops for HDMI), and Trigger In/Out
- CamLink interface board for control and 14 bits digital data
- Camera Link™ frame grabber board
- GigE interface board for control and 14 bits digital data
- Mechanical interface for external lens (threaded or bayonet)
- 3-m GigE cable
- 3-m Camera Link™ cable
- Reusable rugged transport case

Specifications are subject to change without notice. Other configurations are available upon request.

The R100.
### The R100 Mc Line

<table>
<thead>
<tr>
<th>Detector Type</th>
<th>MCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spectral Range (50% FWHM)</td>
<td>3.7 μm to 4.8 μm</td>
</tr>
<tr>
<td>Spatial Resolution</td>
<td>640 x 512 pixels</td>
</tr>
<tr>
<td>Detector Pitch</td>
<td>15 μm</td>
</tr>
<tr>
<td>Zoom Type</td>
<td>Continuous</td>
</tr>
<tr>
<td>NFOV</td>
<td>2° x 1.6°</td>
</tr>
<tr>
<td>WFOV</td>
<td>29.8° x 24.1°</td>
</tr>
<tr>
<td>Aperture Size</td>
<td>F/5.5</td>
</tr>
<tr>
<td>Frame Rate</td>
<td>Tunable, max 60 Hz</td>
</tr>
<tr>
<td>Typical NETD</td>
<td>&lt; 25 mK</td>
</tr>
<tr>
<td>Cooler MTBF</td>
<td>10 000 hrs</td>
</tr>
<tr>
<td>Weight</td>
<td>1.4 kg</td>
</tr>
</tbody>
</table>

#### Specifications are subject to change without notice. Other configurations are available upon request.

### Also Available! Imaging Kits

- Real-time data output: RAW, NUC
- Camera control: Camera Link™, RS422
- Video output: PAL/NTSC, Camera Link™
- Trigger In/Out
- Real-time processing
- 18-32VDC
- 15 W @ 18 V

Telops also offers imaging kits which allow customers to customize their own camera or imaging systems. These kits include the full set of electronic boards and give access to the most advanced camera features. As the board set configuration highly depends on each application and specific request, please ask Telops for a quote.

### Also Available!

- Real-time data output: RAW, NUC, temperature
- Camera control: GigE, Camera Link™, RS232 (command line only)
- Data transfer: GigE (frame rate limitations may apply), Camera Link™
- Digital video output: HD-SDI
- Customer calibration management tools
- Advanced triggering functionalities
- Real-time processing (RTP-NUC)
- Telops Automatice Exposure Control (AEC)

### Deliverables

- Command & Control S/W
- Optical head
- Documentation and ICD
- Board Set Assembly
- Documentation and ICD

Specifications are subject to change without notice.
<table>
<thead>
<tr>
<th>THE R200 LINE.</th>
<th>R200 M</th>
<th>R200 L</th>
</tr>
</thead>
<tbody>
<tr>
<td>DETECTOR TYPE</td>
<td>MCT</td>
<td>MCT</td>
</tr>
<tr>
<td>SPECTRAL RANGE</td>
<td>3.7 μm to 4.8 μm (1.5 μm to 5 μm F/3 optional)</td>
<td>7.7 μm to 9.3 μm</td>
</tr>
<tr>
<td>SPATIAL RESOLUTION</td>
<td>640 x 512 pixels</td>
<td>640 x 512 pixels</td>
</tr>
<tr>
<td>DETECTOR PITCH</td>
<td>15 μm</td>
<td>15 μm</td>
</tr>
<tr>
<td>APERTURE SIZE</td>
<td>F/2 or F/4</td>
<td>F/2</td>
</tr>
<tr>
<td>FRAME RATE</td>
<td>Tunable, max 210 Hz</td>
<td>Tunable, max 230 Hz</td>
</tr>
<tr>
<td>TYPICAL NETD</td>
<td>&lt; 25 mK</td>
<td>&lt; 25 mK</td>
</tr>
<tr>
<td>COOLER MTBF</td>
<td>10 000 hrs</td>
<td>10 000 hrs</td>
</tr>
<tr>
<td>WEIGHT W/O ENCLOSURE</td>
<td>4 kg</td>
<td>4 kg</td>
</tr>
<tr>
<td>LENS MOUNT</td>
<td>Bayonet</td>
<td>Threaded</td>
</tr>
</tbody>
</table>

Please note that the R200 comes without a lens.

Specifications are subject to change without notice. Other configurations are available upon request.

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**INCLUDES**
- Real-time data output: RAW, NUC, temperature
- Camera control: GigE, Camera Link™, RS232 (command line only)
- Data transfer: GigE (frame rate limitations may apply), Camera Link™
- Digital video output: HD-SDI
- Customer calibration management tools
- Advanced triggering functionalities
- Real-time processing (RTP-NUC)
- Telops Automatice Exposure Control (AEC)

**DELIVERABLES**
- Control and Command Reveal IR S/W
- Optical head
- Documentation and ICD

**OPTIONS**
- 24 VDC Power Supply
- Camera Link™ frame grabber board
- 3-m Camera Link™ cable
- Motorized filter wheel (4-position), user-removable 25.4-mm diameter filters, up to 2-mm maximum thickness