Imagine the invisible

High resolution uncooled thermal OEM module

Ready-to-integrate thermal OEM module consuming ultra-low-power

Xenics’ XTM-640-CL is an extremely compact and versatile thermal camera module with unique image quality and stability for a broad range of OEM applications. These applications include security, night vision, firefighting, airborne and land-based reconnaissance and surveillance.

We guarantee you a high operating temperature range and unparalleled uniform and crisp thermal images thanks to on-board image processing and full shutter control.

The module comes with an industry-standard CameraLink interface for data transfer at full frame rate. In windowing mode the frame rate can even be further increased.

The 640 x 480 image resolution with small pixel pitch of 17 µm allows for longer Detection, Recognition and Identification (DRI) values in critical security applications.

### Designed for use in

- **Thermal security**
- **Vision enhancement**
- **Police surveillance**
- **Border security**

### Key features

- Low power
- High resolution
- Easy connectivity
- Small size, 17 µm pixel pitch
- 50 Hz frame rate worldwide

### OEM applications

- UAV / UGV
- Gimbal
- Night vision
- Thermal sights
- Border security
- Fire fighting
- Driver assistance
- Police surveillance
- Search & Rescue (SAR)
- Electro optical payloads
**Specifications**

### Module specifications | XTM-640-CL
--- | ---
**Lens** |  
Optical interface | Fixation holes for multiple lens mount  
**Imaging performance** |  
Frame rate (full frame) | 50 Hz  
Window of Interest | Minimum size 160 x 120  
Integration time | 1 µs - 80 µs  
Shutter | Full control by serial command  
Temperature stabilization | No ThermoElectric Cooling required (TEC-less)  
Integration type | Rolling shutter  
On-board image processing | NUC (Non-Uniformity Correction)  
Auto-offset & Auto-gain (selectable region of interest)  
XIE (Xenics Image Enhancement)  
Histogram equalization  
A to D conversion resolution | 16 bit  
**Interfaces** |  
Digital output | CameraLink  
Analog output | -  
Module control | XSP protocol (RS-232)  
Trigger | In or out (via SMA or CL-CC1)  
**Power requirements** |  
Power consumption | < 2 W  
Power supply | 12 V  
**Physical characteristics** |  
Shock | 40 g, 11 ms according to MIL-STD810G  
Vibration | 5 g (20 Hz to 2000 Hz) according to MIL-STD883J  
Ambient operating temperature | - 40 °C to 60 °C  
Storage temperature | - 45 °C to 85 °C  
Dimensions (W x H x L mm³) | 45 x 45 x 44.6  
Weight module | 84 g  

### Array specifications | XTM-640-CL
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**Array type** | Uncooled microbolometer (a-Si)  
Spectral band | 8 to 14 µm  
# pixels | 640 x 480  
Pixel pitch | 17 µm  
NETD | 50 mK @ 30°C with F/1 lens  
75 mK @ 30°C with F/1 lens  
Array cooling | Uncooled  
Pixel operability | > 99 %

**Product selector guide**

<table>
<thead>
<tr>
<th>Part number</th>
<th>NETD (mK)</th>
<th>Frame rate (Hz)</th>
<th>Interface</th>
</tr>
</thead>
</table>
| XEN-000301 | 50 | 50 | CameraLink  
| XEN-000448 | 9 | 9 |  
| XEN-000414 | 75 | 50 |  
| XEN-000455 | 9 | 9 |  

Ready-to-integrate

Lens & filter options

- Athermalized lenses
- Fixed focus lenses
- DFOV lenses
- Zoom lenses

**Discover our Lens Selector Guide**
www.xenics.com/LSG