

Imagine the invisible

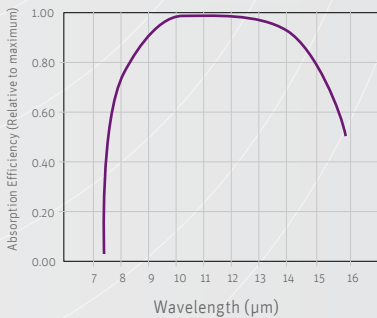
Modules & Components

# XTM-640 core series

High resolution uncooled thermal OEM module



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



The XTM-640 core series 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.

You can easily integrate our XTM-640 cores into your system with the universal Samtec QTE connector, which gives you 16 bit parallel digital video data. This allows you immediate connection, data acquisition, command and control.

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 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

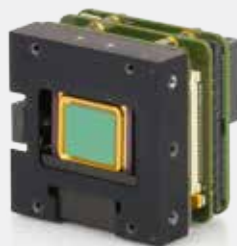
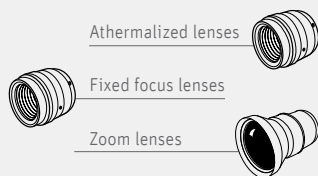
- Low power
- High resolution
- Easy connectivity
- Small size, 17 µm pixel pitch

### OEM applications

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

## Ready-to-integrate

### ↳ Lens & filter options



### ↳ Inputs



Samtec QTE

> Discover our Lens Selector Guide  
[www.xenics.com/LSG](http://www.xenics.com/LSG)

## Specifications

Module specifications	XTM-640-16bitDV	XTM-640-BT.656
<b>Lens</b>		
Optical interface	Fixation holes for multiple lens mount	
<b>Imaging performance</b>		
Frame rate (full frame)	50 Hz	25 or 30 Hz (configurable)
Window of Interest	Minimum size 160 x 120	
Temperature stabilization	No ThermoElectric Cooling required (TEC-less)	
On-board image processing		
NUC (Non-Uniformity Correction)	√	√
Bad pixel detection algorithm	-	√
Auto-offset & Auto-gain	√ (with selectable region of interest)	√ (with selectable region of interest)
XIE (Xenics Image Enhancement)	√	√
Histogram equalization	√	√
Digital zoom	-	√
A to D conversion resolution	16 bit	
<b>Interfaces</b>		
Connector	Samtec QTE	
Video output	16 bit digital video + LVAL/ DVAL/FVAL signals	ITU-R BT.656
Analog output	-	
Module control	XSP protocol	
Trigger	In or out (configurable via Samtec)	
<b>Power requirements</b>		
Power consumption	1.65 W	
Power supply	3.3 V	
<b>Physical characteristics</b>		
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 mm <sup>3</sup> )	45 x 45 x 35.8	
Weight module	75 g	

Array specifications	XTM-640 (All versions)
Array type	Uncooled microbolometer (a-Si)
# pixels	640 (W) x 480 (H)
Pixel pitch	17 μm
Spectral band	8 to 14 μm
NETD	55 mK @ 30°C with F/1 lens
Detector Operating Mode	Rolling shutter
Window of Interest	Yes
Integration time	1 μs - 80 μs
Pixel operability	> 99.5 %*

\*excludes 3 peripheral lines and columns

## Product selector guide

Part number	NETD (mK)	Frame rate (Hz)	QTE Interface
XEN-000064	55	50	16bitDV
XEN-000445		9	
XEN-000299		25 or 30	BT.656
XEN-000446		9	

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