

Imagine the invisible

Modules & Components



XCO-640

Long range MWIR surveillance core

Highly stabilized and superior optical performance for long range monitoring

For stable medium to long range imaging, Xenics presents the stirling cooled XCO-640: an infrared module, based on a cooled MWIR engine with a ultra-low 20 mK NETD detector and configured with a high-performance zoom lens.

The zoom control over Serial Protocol together with advanced on-board image processing for increased contrast performance, makes the XCO-640 module the perfect fit for flexible and mobile observation platforms for law enforcement, homeland security and perimeter surveillance.

Full flexibility is offered with a multiple digital interface functionality such as GigE Vision and CameraLink. Digital and analog out are available simultaneously. The fast trigger in/out allows for easy synchronisation with other control systems. The exposure time is fully adjustable. Furthermore the high frame rate can be further increased in windowing mode.

This core will meet the requirements of the professional security market looking for specialty and customizable features.

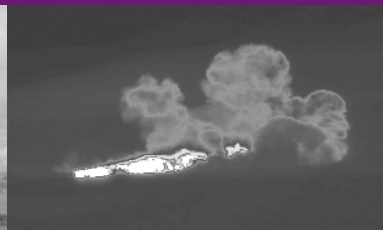
Designed for use in



Long range surveillance



Harbour protection



Airplane tracking



Perimeter protection

OEM applications

- Night vision
- Border control
- Airplane tracking
- Harbour protection
- Perimeter protection
- Long range surveillance

Benefits & Features

- Made in Europe
- Easy connectivity
- On-board image processing
- High resolution and high speed monitoring
- Custom optical alignment for 15-330mm, 30-660mm or 40-825mm zoom

Advanced on-board image processing algorithms

LACE

The Local Area Contrast Enhancement (LACE) algorithm enhances contrast by different amounts in different areas of an image. For example, this allows for areas which already have high contrast to be left alone, whilst bland areas are enhanced to highlight fine details.

The algorithm dynamically adjusts the contrast within the image to enable better visualisation, ensuring that small details within imagery, that might otherwise be missed, are enhanced to draw the attention of the observer

AGC

The Automatic Gain Control (AGC) algorithm enhances contrast on a global scale. It allows controlling the offset and/or gain parameters in a manual way or in an automatic way

NUC

The on-board Non-Uniformity Correction, which compensates for offset and gain deviations of each pixel, guarantees a good image under varying environmental conditions. Also bad pixel correction is taken care of

Auto-focus (planned)

The onboard auto-focus algorithm controls the lens, in order to obtain automatically and very fast the optimal focus position. While zooming the focus is kept, in order to benefit maximally from the lens zooming capabilities in all circumstances.

| Engine array specifications | XCO-MCT-640 | XCO-InSb-640 |
|-----------------------------|------------------------------------|--|
| Array type | MCT | InSb |
| # pixels | 640 x 512 | 640 x 512 |
| Pixel pitch | 15 µm | 15 µm |
| Frame rate | 120 Hz | 300 Hz |
| Spectral band | 3.7 µm to 4.8 µm | 3.6 µm to 4.9 µm |
| Detector aperture | f/4 | f/4 |
| Sensitivity (NETD) | 20 mK | 20 mK |
| Operating temperature | < 80 K | < 80 K |
| Full well capacity | 6.5 10 ⁶ e ⁻ | 6.0 10 ⁶ e ⁻ (HDR)* ; 1.5 10 ⁶ e ⁻ (HG)** |

* High Dynamic Range mode

** High Gain mode

Specifications

| Module specifications | XCO-640 |
|---------------------------------|--|
| Lens | |
| Focal length | Optional 15-330 mm f/4; Optional: 30-660 mm f/4 or larger |
| Lens control | Integrated in camera interface |
| Interfaces | |
| Video output | CameraLink GigE (GigE Vision) Analog (PAL or NTSC) or HD-SDI CXP |
| Digital control | GigE (GigE CP) Serial channel CameraLink XSP (Xeneth Serial Protocol) Serial control XSP (Xeneth Serial Protocol), RS232 |
| Trigger | 2 trigger inputs and 2 trigger outputs; LVCMOS |
| Power requirements | |
| Power consumption | Typically 25 Watt at room temperature |
| Power supply | 24 V |
| Physical characteristics | |
| Weight | < 1.5 kg (lens not included) |
| Dimensions | 93 W x 100 H x 160 L mm (lens not included) |