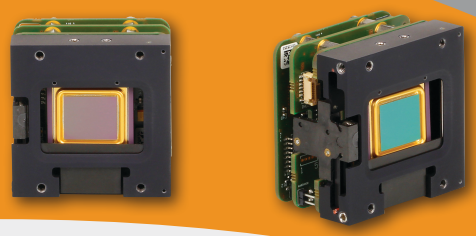
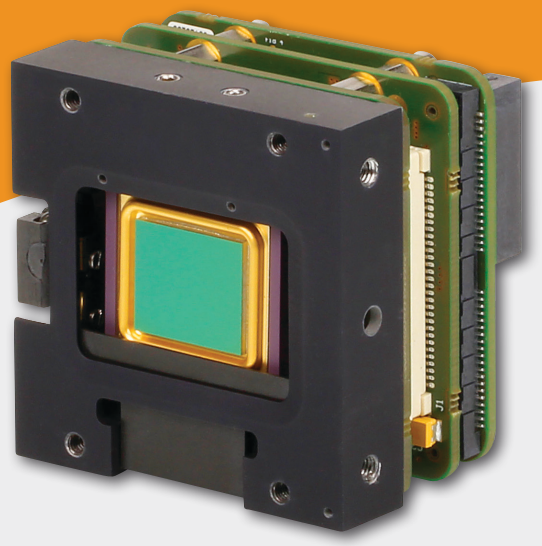
XTM 640 Series

Thermal LWIR Camera Module

- LWIR uncooled module with 640 x 480 resolution
- Microbolometer detector





Small, high performance uncooled thermal module

The XTM 640 series is based on an uncooled microbolometer detector with a 640 x 480 pixel resolution.

The XTM 640, with detector NETD of less than 55 mK, offers frame rates up to 50 Hz, whereas the XTM+ 640 reaches frame rates of 60 Hz and detector NETD of less than 50 mK.

The modules come with either a CameraLink, GigE Vision or QTE Samtec interface and feature low weight and power.

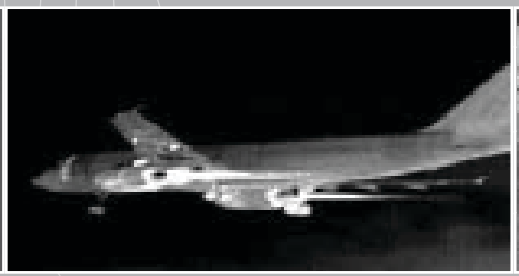
Designed for use in

- Safety & Security
- Transportation

Advantages

- Compact size
- Easy connectivity via multiple interfaces
- Frame rates up to 60 Hz
- Detector NETD below 50 mK

Thermal security



Vision enhancement

Border security

Camera Specifications

Camera Specifications	XTM 640 CL XTM+ 640 CL	XTM 640 GigE XTM+ 640 GigE	XTM 640 PAL/NTSC XTM+ 640 PAL/NTSC	XTM 640 16bit DV XTM+ 640 16bit DV	XTM 640 BT.656 XTM+ 640 BT.656
Mechanical specifications					
Approximate dimensions - excluding lens [width x height x length] [mm]	45 x 45 x 45	45 x 45 x 63	45 x 45 x 47	45 x 45 x 36	45 x 45 x 36
Weight [gr] - excluding lens	84	125	99	72	72
Optical interface [optional]	M42 or M34 x 0.75				
Connector GigE	-	RJ-45	-	-	-
Connector CameraLink	Standard SDR	-	-	-	-
Connector power	Hirose HR10-7R-SA[73]	Hirose HR10-7R-SA[73]	Hirose HR10-7R-SA[73]	-	-
Connector trigger	SMA	SMA	SMA	-	-
Connector analog	-	-	BNC	-	-
Connector RS232	-	-	RJ-12	-	-
Connector general I/O	-	-	-	QTE-020-02-L-D-A-Samtec	QTE-020-02-L-D-A-Samtec
Environmental & power specifications					
Ambient operating temperature range [°C]	From -40 to +60				
Storage temperature [°C]	From -45 to +85				
Power consumption [W]	2	4.5	2	1.65	1.65
Power supply voltage	DC 12 V	DC 12 V	DC 12 V	DC 3.3 V	DC 3.3 V
Shock	40 g, 11 ms, MIL-STD810G/MIL-STD883J				
Vibration	5 g [20 - 2000 Hz], MIL-STD810G/MIL-STD883				
Regulatory compliance	RoHS				
Electro-optical specifications					
Image format [pixels]	640 x 480				
Pixel pitch [µm]	17				
Detector type	a-Si microbolometer				
Integration type	Rolling shutter				
Active area and diagonal [mm]	10.88 x 8.16 [diagonal 13.6]				
Detector NETD [Noise Equivalent Temperature Difference] [mK]	<55 [at 30 Hz, 300 K, F/1];				
Spectral range [µm]	8 - 14				
Pixel operability	>99% [excluding 3 peripheral lines and columns]; >99.5% for XTM+				
Max frame rate [Hz] [full frame]	50 [or 9]; 60 [or 9] for XTM+	50 [or 9]; 60 [or 9] for XTM+	25 [PAL] or 30 [NTSC] [or 9]	50 [or 9]; 60 [or 9] for XTM+	50 [or 9]; 60 [or 9] for XTM+
Integration time range [µs]	1 - 80				
Region of interest	Yes				
Min region size [pixels]	160 x 120				
Analog-to-Digital [ADC] [bits]	16				
Command and control	CameraLink	GigE Vision	RS232	QTE Samtec [serial LVCMOS]	QTE Samtec [serial LVCMOS]
Digital output format	CameraLink [16 bit]	GigE Vision [16 bit]	-	Digital Video [16 bit]	BT.656
Trigger	In or out via SMA or in via CL-CC1 [configurable] [not for 9 Hz]	In or out via SMA [configurable] [not for 9 Hz]	In or out via SMA [configurable] [not for 9 Hz]	In or out via QTE Samtec [configurable] [not for 9 Hz]	In or out via QTE Samtec [configurable] [not for 9 Hz]
Product selector guide					
Part number	XEN-000301	XEN-000300	XEN-000302 [PAL]	XEN-000064	XEN-000299
	XEN-000448 [9 Hz]	XEN-000447 [9 Hz]	XEN-000450 [PAL] [9 Hz]	XEN-000445 [9 Hz]	XEN-000446 [9 Hz]
	XEN-000638 [XTM+]	XEN-000637 [XTM+]	XEN-000634 [XTM+] [PAL]	XEN-000635 [XTM+]	XEN-000636 [XTM+]
	XEN-000643 [XTM+] [9 Hz]	XEN-000642 [XTM+] [9 Hz]	XEN-000639 [XTM+] [PAL] [9 Hz]	XEN-000640 [XTM+] [9 Hz]	XEN-000641 [XTM+] [9 Hz]
	-	-	XEN-000303 [NTSC]	-	-
	-	-	XEN-000451 [NTSC] [9 Hz]	-	-
	-	-	XEN-000648 [XTM+] [NTSC]	-	-
	-	-	XEN-000649 [XTM+] [NTSC] [9 Hz]	-	-

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