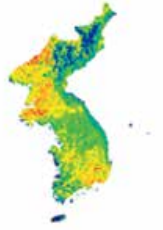




Intelligent
Image
Information
System



i3system, Inc.

True Partner for Your Success in Trust

i3system, Inc.

True Partner for Your Success in Trust

Company overview

Company Name : i3system, Inc.
(Intelligent Image & Information System)

CEO : Chung Han (Ph.D)

Establishment : 1998

Number of Employees : 490 (Q1, 2024)

- 1988 : Initial Research at KAIST by founder
- 2003 : Cooled MWIR R&D
- 2006 : Uncooled LWIR R&D
- 2010 : Serial Production of Cooled MWIR IDDCA
- 2012 : Serial Production of Uncooled LWIR micro-bolometer
- 2015 : IPO in KOSDAQ (Korean stock market)
- 2015 : ISO9001:2008 / ISO9001:2015
- 2016 : New production building set up at Moonji-dong
- 2018 : Launch 12 μ m XGA / VGA / QVGA micro-bolometer detector
- 2019 : Innovation Award by Korea Ministry of Defence
- 2022 : Launch New T2SL HOT MWIR / Cooled LWIR detector
- 2023 : Developed 8 μ m SXGA micro-bolometer detector
- 2024 : T2SL Dual Band R&D to be completed



Headquarter / Factory #1



Moonji-dong / Factory #2



Jang-dong (R&D Center)

Facilities

Process



Assembly



Analysis



Test & Evaluation



**In house manufacture facility
and test equipments**

Products

01. T2SL Cooled HOT MWIR Detector [MARKOS series]	02
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T2SL MARKOS series



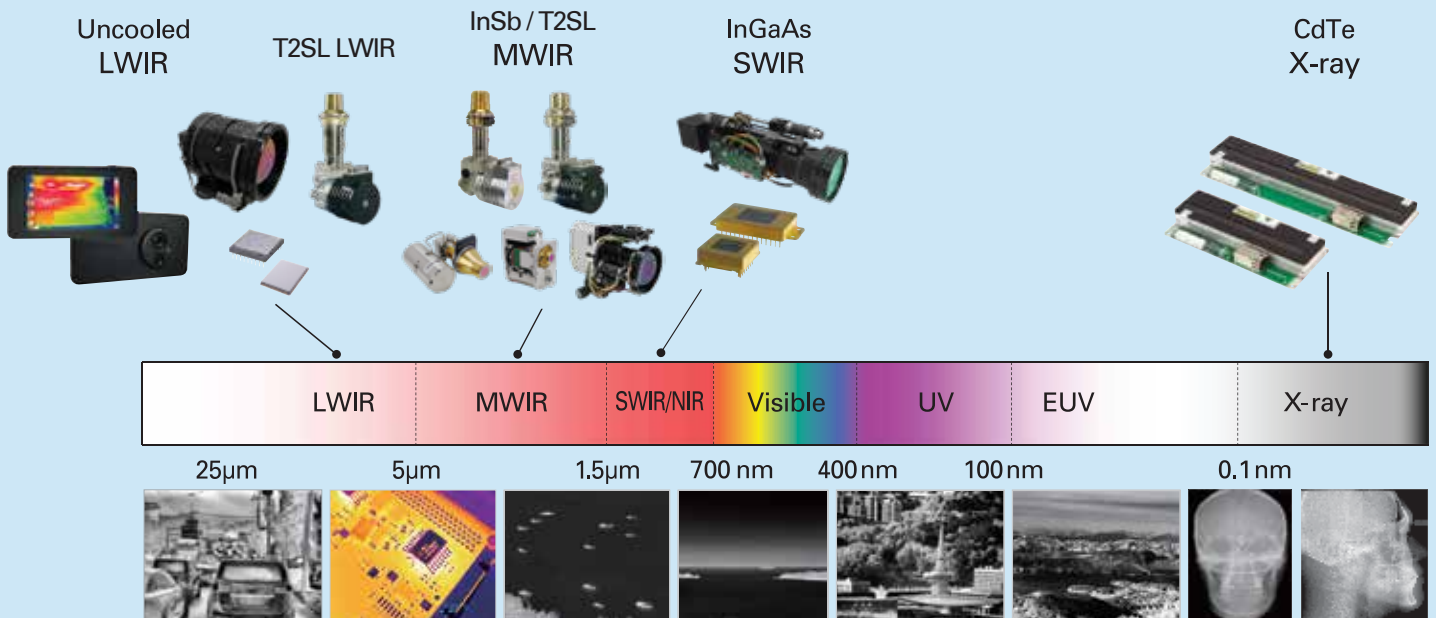
T2SL LUKAS series



InSb SXGA



InGaAs SWIR SXGA

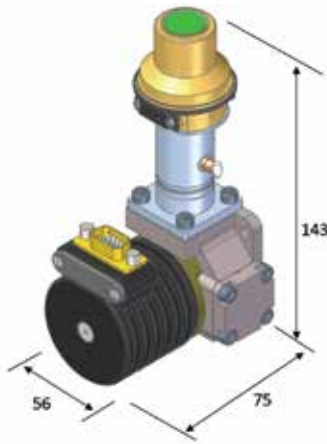




Super MARKOS

HOT MWIR 1280 X 1024 10 μ m

Super MARKOS is a new generation T2SL HOT MWIR detector in HD quality. This T2SL HOT detector satisfies requirement of tactical such as long-range surveillance and electro-optical targeting system. The Operating temperature (>130K) will reduce the maintenance cost.



Proxy board [Raw data]
Output: Camera Link

Applications



Security



Night
Observation



Long-range
Surveillance



Reconnaissance

Specifications

Detector type	T2SL
Array format	1280 x 1024
Pixel pitch	10 μ m
NETD	$\leq 25\text{mK}$ @ Half-well fill
Wavelength band	MWIR (3 μ m ~ 5 μ m)
Max Frame rate	110Hz@1280x1024 Full frame
Cool-down time	$\leq 5\text{min}$
FPA operating temp.	130K

Image from the 2D IR detector



MARKOS

HOT MWIR 640 x 512 15 μ m, SWaP



MARKOS is a T2SL HOT MWIR SWaP detector specifically designed for handheld thermal imaging and drone & UAV systems, and light-weight monitoring devices. This HOT(High Operating Temperature) and SWaP(Size Weight and Power) detector is suitable for long-term use.

Applications



Detector



Security /
Surveillance



Night
Observation



Drone



Hand-held
Thermal Imager

Specifications

Detector type	T2SL
Array format	640 x 512
Pixel pitch	15 μ m
NETD	$\leq 20\text{mK}$ @ Half-well fill (Detector)
Wavelength band	MWIR (3 μ m ~ 5 μ m)
Cool-down time	$\leq 5\text{min}$
FPA operating temp.	130K
Max Frame rate	Detector : 220Hz @ 640 x 512 full frame
	OEM Module : 60Hz @ 640 x 512 full frame
F number	F/5.5 Standard, other F# option possible



OEM Module



Camera Core



MARKOS Camera Core

HOT MWIR VGA Camera Core

Description

- ITAR free VGA MWIR HOT Camera Core with high performance, low SWaP, and linear cooler integration.
- The camera core includes video processing and control features designed for handheld cameras, miniature gimbals for drones & UAVs, and light-weight monitoring devices.
- Full MWIR Spectral Range, High Sensitivity, Common & Simple Electrical Interface.

Applications



Security /
Surveillance



Night
Observation



Drone &
UAV



Hand-held
Thermal Imager



Gimbal
Platforms



Marine
Navigation



Images from the 2D IR detector

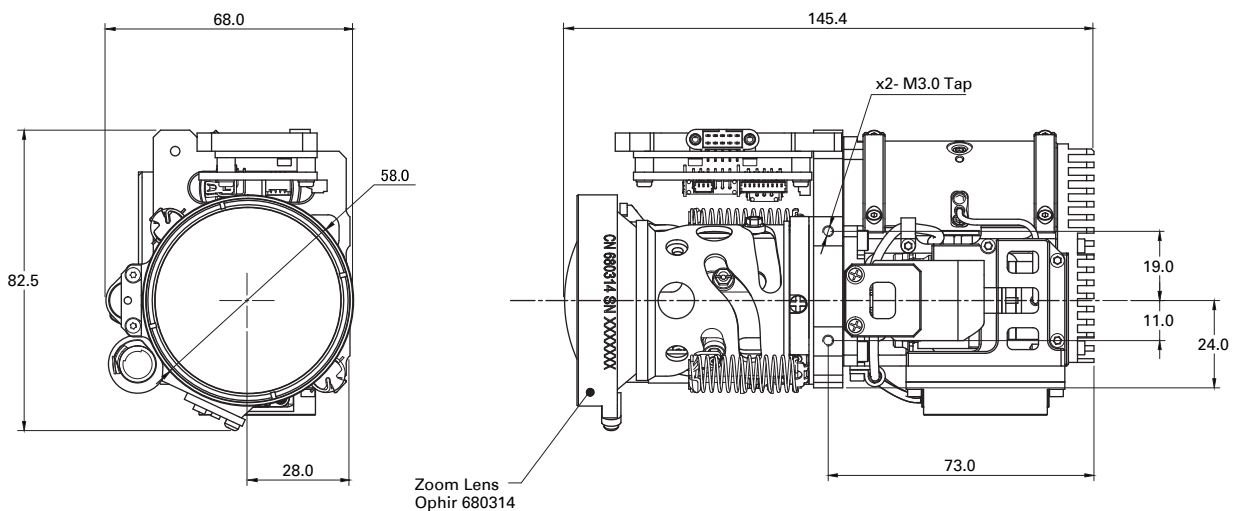


SEE THE NEW WORLD THROUGH i3system, Inc.

Specifications

Detector	
Type	T2SL
Array format	640 x 512, 15 μ m
Spectral range	MWIR (3 μ m~5 μ m)
F number	F/5.5 (Standard), possible to customize
Thermal sensitivity(NETD)	\leq 25mK
Cool-down time	\leq 5 min. @ room temperature
Electrical	
Frame rate	60Hz
Input Power	+5.0 VDC board, +12.0 VDC SWaP linear cooler
Power Consumption	\leq 5W steady state @ 23°C (Cooler \leq 3W, Electronics \leq 2W)
Control	UART (RS-232)
Video output	NTSC/PAL, HDMI, Camera-link
Mechanical	
Size (W x H x L)	Without lens : 51mm x 75.6mm x 70.1mm
	With lens : 68mm x 82.5mm x 145.4mm
Weight	Without lens : 360g
	With lens : 710g (f/5.5 20-275mm)

Dimension



LUKAS

LWIR 640 x 512 15 μ m



LUKAS is a T2SL LWIR VGA detector which shows an excellent performance especially for ground vehicles with its anti-blooming capability and strong penetration in foggy & dusty area. This LWIR detector ensures the visibility even in tough environmental conditions such as sun-glint and light reflex.



Proxy board [Raw data]
Output: Camera Link

Applications



Security /
Surveillance



Night
Observation

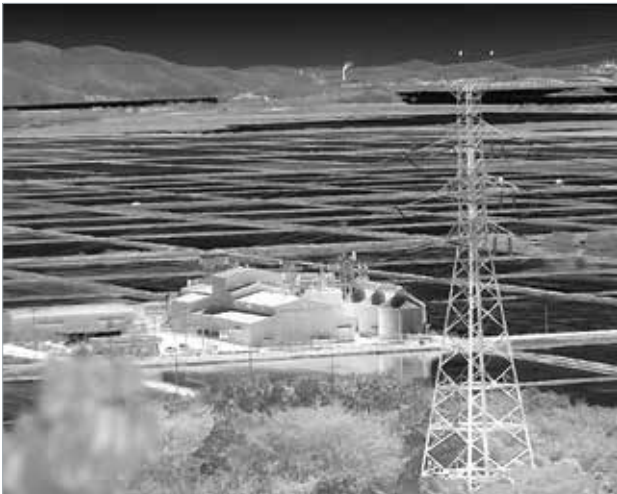


Thermal
Sight

Specifications

Detector type	T2SL
Array format	640 x 512
Pixel pitch	15 μ m
NETD	$\leq 25\text{mK}$ @ Half-well fill
Wavelength band	LWIR (7.7 μ m ~ 9.4 μ m)
Max Frame rate	180Hz @ 640 x 512 Full Frame
Cool-down time	$\leq 7\text{min}$

Images from the 2D IR detector





InSb Cooled IR Detector

MWIR 1280 x 1024 10 μ m



DI1280-10M



iCP1280

Proxy board [Raw data]
Output: Camera Link



iCE1280P

OEM Module [Video data]
Output: Camera Link

Applications



Security



Night
Observation



Long-range
Surveillance

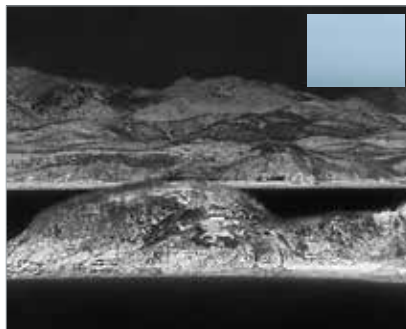


Reconnaissance

Specifications

Detector type	InSb
Array format	1280 x 1024
Pixel pitch	10 μ m
NETD	$\leq 25\text{mK}$ @ Half-well fill
Wavelength band	MWIR (3 μ m ~ 5 μ m)
Max Frame rate	100Hz@1280x1024 Full frame
Cool-down time	$\leq 7\text{min}$

Images from the 2D IR detector



InSb Cooled IR Detector

MWIR 640 x 512 15 μ m



DI640-15M



iCP640

Proxy board [Raw data]
Output: Camera Link



iCE640

OEM Module [Video data]
Output: digital (BT656, Camera Link)
analog (NTSC, PAL)

Applications



Security



Night
Observation



Long-range
Surveillance



Reconnaissance

Specifications

Detector type	InSb
Array format	640 x 512
Pixel pitch	15 μ m
NETD	$\leq 20\text{mK}$ @ Half-well fill
Wavelength band	MWIR (3 μ m ~ 5 μ m)
Max Frame rate	220Hz@640 x 512 Full frame
Cool-down time	$\leq 7\text{min}$

Images from the 2D IR detector



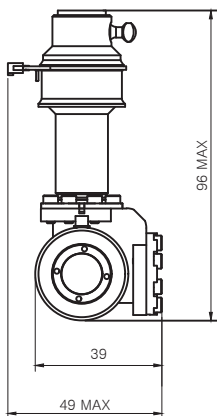
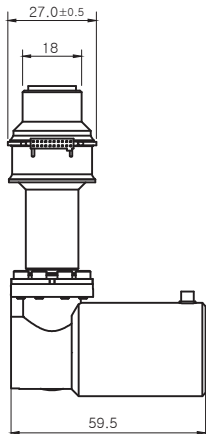


InSb Cooled IR Detector

MWIR 320 x 256 15 μ m



DI320-15M



Applications



Security



Night
Observation



Drone



Hand-held
Thermal Imager

Specifications

Detector type	InSb
Array format	320 x 256
Pixel pitch	15 μ m
NETD	$\leq 20\text{mK}$ @ Half-well fill
Wavelength band	MWIR (3 μ m ~ 5 μ m)
Readout mode	ITR
Cool-down time	$\leq 7\text{min}$

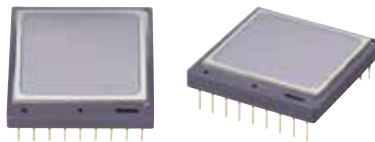
Images from the 2D IR detector



Uncooled Infrared Detector



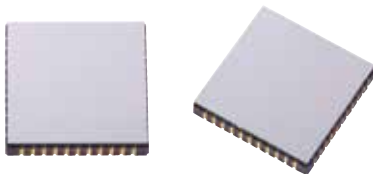
DB1280-8C-A
1280 x 1024, 8 μ m



DB1024-12C-A
1024 x 768, 12 μ m

DB640-12C-A
640 x 480, 12 μ m

DB640-17C-A
640 x 480, 17 μ m



DB384-12C-A
384 x 288, 12 μ m

DB384-17C-A
384 x 288, 17 μ m

Applications



Security /
Surveillance



Night
Vision



Electrical
maintenance



Plumbing



Medical /
Health

Specifications

Detector type	Microbolometer (uncooled)
Array format	1280 x 1024
Pixel pitch	8 μ m
NETD	$\leq 55\text{mK @ F/1 300K, 30Hz}$
Wavelength band	LWIR (8 ~ 14 μ m)
Max Frame rate	30 Hz

Detector type	Microbolometer (uncooled)		
Array format	1024 x 768	640 x 480	384 x 288
Pixel pitch	12 μ m		
NETD	$\leq 40\text{mK}$ or $\leq 55\text{mK @ F/1 300K, 30Hz}$		
Wavelength band	LWIR (8 ~ 14 μ m)		
Max Frame rate	100 Hz	60 Hz	

Detector type	Microbolometer (uncooled)	
Array format	640 x 480	384 x 288
Pixel pitch	17 μ m	
NETD	$\leq 50\text{mK @ F/1 300K, 30Hz}$	
	$\leq 35\text{mK @ F/1 300K, 30Hz (optional)}$	
Wavelength band	LWIR (8 ~ 14 μ m)	
Max Frame rate	60 Hz	



THERMAL EXPERT™

Uncooled Infrared Camera Core

TE-EX2
TE-EV2
TE-EQ2



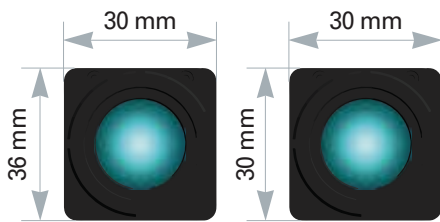
TE-EX2
1024 x 768, 12 μ m
15-100mm lens



TE-EV2
640 x 480, 12 μ m

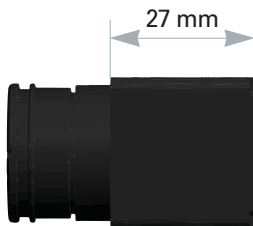


TE-EQ2
384 x 288, 12 μ m



TE-EX2
TE-EV2

TE-EQ2



Applications



Security /
Surveillance



Night
Vision



Electrical
maintenance



Plumbing



Medical /
Health

Specifications

Array format	1024 x 768	640 x 480	384 x 288
Pixel pitch	12 μ m		
NETD	$\leq 55\text{mK @ F/1, 300K}$		
Wavelength band	LWIR (8 ~ 14 μ m)		
Frame rate	<9Hz or <30Hz		
Temperature Range	-10 $^{\circ}\text{C}$ ~ 150 $^{\circ}\text{C}$		
Video Output	Camera Link	NTSC, PAL, LV CMOS, Camera Link, USB, BT656	

Thermal Images



THERMAL EXPERT™

Uncooled Infrared Camera Core

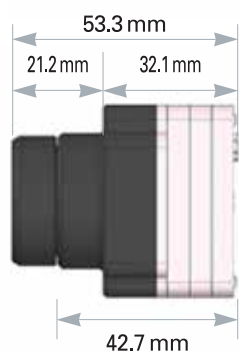
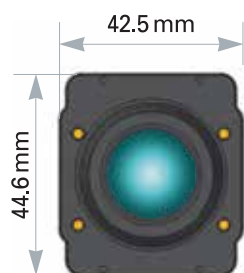
TE-EV1
TE-EQ1



TE-EV1
640 x 480, 17 μ m



TE-EQ1
384 x 288, 17 μ m



Applications



Security /
Surveillance



Night
Vision



Electrical
maintenance



Plumbing



Medical /
Health

Specifications

Array format	640 x 480	384 x 288
Pixel pitch	17 μ m	
NETD	$\leq 50\text{mK @ F/1, 300K}$	
Wavelength band	LWIR (8 ~ 14 μ m)	
Frame rate	< 9Hz or < 30Hz	
Temperature Range	-10 $^{\circ}\text{C}$ ~ 150 $^{\circ}\text{C}$	
Video Output	NTSC, PAL, LV CMOS, Camera Link, USB, GigE, IP, BT656	

Thermal Images





THERMAL EXPERT™

Uncooled Infrared Camera Core

TE-V2
TE-Q2



TE-V2
640 x 480, 12 μ m / 17 μ m



TE-Q2
384 x 288, 12 μ m

Applications



Security /
Surveillance



Night
Vision



Electrical
maintenance



Plumbing



Drone

Specifications

Array format	640 x 480	384 x 288
Pixel pitch	12 μ m, 17 μ m	12 μ m
NETD	$\leq 50\text{mK}$ or $\leq 55\text{mK}@F/1$ 300K, 30Hz	
Wavelength band	LWIR (8 ~ 14 μ m)	
Frame rate	< 9Hz or < 30Hz	< 9Hz
Weight	42g (With lens)	30g (With lens)
Temperature Range	-10 $^{\circ}\text{C}$ ~ 150 $^{\circ}\text{C}$	
Video Output	USB	

Product Mix



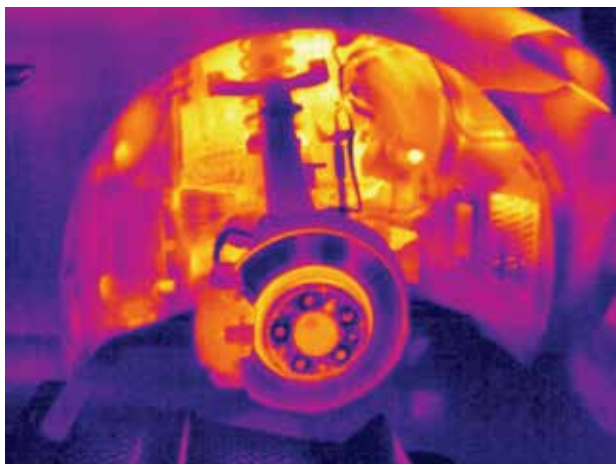
+



+



Thermal Images



THERMAL EXPERT™

Portable Infrared Camera

TE-SQ1



Features

- Color palettes (12 color maps)
- Storage images (IR, visible with snapshot and video)
- Image view with visible (50:50, Twin, Overlay, Floating)
- Temperature Measurement (Alarm, Min / Max, Point / Rectangle / Circle profile)
- Level span (Temp. range control)
- Report (Generate PDF report)
- Wi-Fi streaming, Data Sharing
- Compatible with Analysis Tool
- Digital Zoom
- SD Card, Micro HDMI Support



Applications



Security /
Surveillance



Night
Vision



Electrical
maintenance



Plumbing
/ HVAC



Medical /
Health



Animal Care



Leisure

Thermal Images

TE-SQ1	
Detector type	Micro-Bolometer(Uncooled)
Array Format and Pitch	384x288, 12 μ m
Thermal Sensitivity(NETD)	≤ 55 mK@F/1, 300K(20 $^{\circ}$ C~30 $^{\circ}$ C)
Operability	$\geq 99.0\%$
Spectral range	8~14 μ m
Lens Specification	5.7mm, f/1.1, Manual Focus
Field of View	38 $^{\circ}$ (H)x29 $^{\circ}$ (V)~47 $^{\circ}$ (D)
Frame Rate	< 9Hz
Display	5 Inch (Touch Screen)
Temp. Range	-40~350 $^{\circ}$ C
Accuracy	0 $^{\circ}$ C~100 $^{\circ}$ C : $\pm 3^{\circ}$ C, 100 $^{\circ}$ C~350 $^{\circ}$ C : $\pm 3\%$ [Ambient temp. 15 to 35 $^{\circ}$ C, Object temp. above 0 $^{\circ}$ C]
Output	Micro HDMI
Operation Temp.	-10~50 $^{\circ}$ C
Storage	Internal 32GB, Micro SD card(External)
Dimension	157mmx87mmx25mm
Weight	375g
Battery	Li-Ion(Internal), 4200mA



InGaAs SWIR Camera Core

1280 x 1024 10 μ m

iSE1280-10-CL

iSE1280 is SWIR camera module designed for various inspections such as food quality, material, non-destructive, forgery, etc. This short-wave product will provide an excellent visibility in the far distance of fog and dusty conditions.

Applications



Detection /
Surveillance



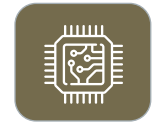
Material
inspection



Food
inspection



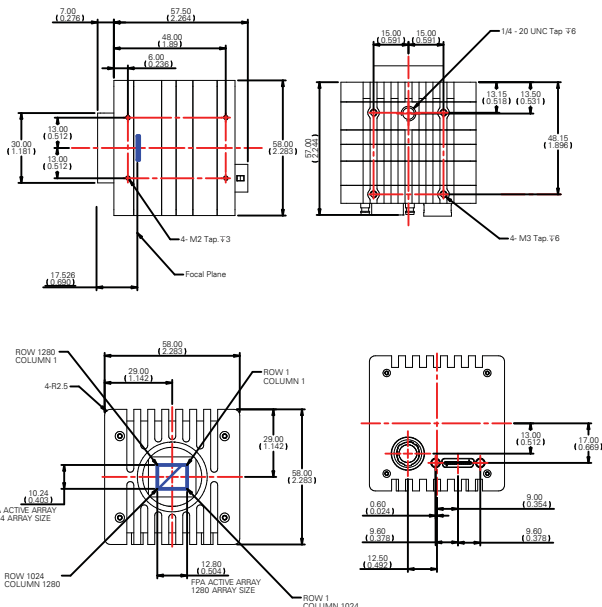
Forgery
detection



Semiconductor
inspection

Specifications

Sensor Type	InGaAs
Array format	1280 x 1024
Pixel Pitch	10 μ m
Spectral Range	SWIR (0.9 ~ 1.7 μ m)
Shutter mode	Global Shutter
Readout Noise	$\leq 100e^-$
Quantum Efficiency	70% @ 1550nm
Dark current	19,000 @ 15 $^{\circ}$ C



SWIR Image



Catalog



Cooled
product



Uncooled
product

Website



i3system



Thermal Expert



LinkedIn



YouTube



Instagram

Social Media



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