DRS Technologies, Inc.
Trade Compliance Office
2345 Crystal City Drive
10th Floor
Arlington, VA 22202

April 4, 2016

Mr. Dennis Krepp
Office of National Security and Technology Transfer Controls
Bureau of Industry and Security
U.S. Department of Commerce
Washington, DC 20230

Subject: Response to the Amendment to the Export Administration Regulations: Control of Fire Control, Range Finder, Optical, and Guidance and Control Equipment the President Determines No Longer Warrant Control Under the United States Munitions List – RIN 0694-AF75

Dear Mr. Krepp,

DRS Technologies, Inc. appreciates the opportunity to comment on this newest version of the proposed revisions to the EAR related to Fire Control, Range Finder, Optical and Guidance and Control Equipment. This rule coupled with its counterpart to the USML (81FR8421) are significant improvements to the proposals published 5 May 2015. We applaud the Department for its response to the public comments to the earlier proposed rules as this latest version proposes to control as commercial/dual-use those items that are commercial/dual-use. This will enable the U.S. commercial industrial base to better compete against well established and growing foreign competition. In this regard though, we have concerns with some provisions relating to the licensing policy within this proposal.

The licensing policy exhibited in several entries appears to be 1) a reversal from current policy and 2) more stringent that the licensing policy displayed by any of the Wassenaar or non-Wassenaar countries who currently manufacture and sell equivalent commercial technology. In our comments to the first proposed rule we cited the joint Departments of Defense and State report to the Congress regarding their recommendation to return the export control of commercial satellites to the Department of Commerce (re. the 1248 report), where the Departments stated that

> "*Applying more stringent export control policies and practices than are imposed by other advanced satellite-exporting countries places the U.S. satellite industry at a distinct, competitive disadvantage that undermines the U.S. space industrial base to the detriment of U.S. national security, while doing nothing to protect the technological advances that are critical to giving our war fighters the advantages that U.S. technology can afford them.*"

The lessons learned cited in this report were not limited to controlling as military items that are available commercially from other nations. These lessons were equally applicable to applying more stringent commercial export control policies and practices than are imposed by foreign countries.

Our concerns with the proposed rule are that some of the licensing policy being proposed by the Department is significantly more stringent than that currently imposed by any of the many nations that possess infrared technology and produce infrared devices. The result of this more restrictive licensing policy will be to place the U.S. infrared industry at a competitive disadvantage that undermines the U.S. infrared industrial base to the detriment of U.S. national security. Given the world-wide availability of commercial infrared technology at all levels of the supply chain (ROICs, FPAs, cryo-coolers, optics, cores, and cameras), we urge the Department to re-evaluate the licensing policy in this proposed rule to better account for the foreign availability from sources in both Wassenaar and non-Wassenaar countries. We have attached to this letter a sampling of product brochures of foreign available equivalent commercial items. This sampling is not comprehensive. Given the number of foreign available sources, such a compiling would take too long to assemble and would consist of too many pages of print. The purpose is simply to show a glimpse of the world-wide availability.

The following are our specific regarding the proposed rule are:

Licensing requirements based on military end-user as cited in §744.9, ECCN 6A003, and ECCN 6A993. We strongly urge the Department to re-evaluate the requirement to obtain a license based on a military end-user. We believe this requirement to be unnecessary and extremely confusing to implement. It is confusing to implement as it sets the situation where two infrared cameras being exported for the same end-use, to the same country does not require a license in the first case, but requires a license in the second case simply because the first case it will be mounted on a pole for security outside a factory whereas the second case it will be mounted on a pole for security outside a military facility. That is very confusing to implement. If a commercial camera is being sold such that it is not being embedded into a military item, who it is sold to should not matter with regard to a requirement for a license. This is especially valid given the increasing availability of very capable commercial infrared cameras from multiple world-wide sources. Additionally, the proposed rule cites a requirement across the board to obtain a license based on the item being incorporated into a military item (item described on the USML or WAML), a very clear requirement to implement. We believe this proposed change to be very positive as it fully captures infrared cameras that could be imbedded into military items. We also believe, that this change further obviates any need for a licensing requirement solely based on a military end user.

ECCN 6A003. We urge the Department to re-assess the recommendation to control the entire entry as RS-1 by eliminating the note regarding 111,000 elements and below presently being controlled as RS-2. The current controls were implemented at a time when 111,000 elements and below for an infrared focal plane array was the industry standard. Today, the industry standard is 328,000 elements (640x512). This size focal plane array is available from at least 7 companies located in 5 countries. 3 of the companies are located in China (non-Wassenaar). Based on the proliferating non-Wassenaar country availability, we urge the Department to revise

Note 3 to 6A003.b.4.b to read that it does not control imaging cameras with a maximum frame rate equal to or less than 60 Hz and a focal plane array with not more than 328,000 elements. If this is not possible, at a minimum we urge the Department to control the entire entry as RS-2, based on the wide-spread Wassenaar country availability. Listed below are some of the non-US uncooled focal plane array manufactures used in the above cameras (6A002.a.3 items that are incorporated into 6A003.b.4.b cameras). We have listed the non-US FPA manufactures because the list of non-US camera manufactures is too long to list.

Non-US Uncooled FPA manufactures:

- Ulis, France, uncooled infrared focal plane arrays up through 1024x768, commercial.
- Semi-Conductor Devices (SCD), Israel, uncooled infrared focal plane arrays up through 640x480, commercial
- NEC Avio Infrared Technologies Co. Ltd., Japan, uncooled infrared focal plane arrays up through 640x480, incorporated into their own commercial IR camera cores and camera systems, commercial
- Wuhan-Guide, China, http://wuhan-guide.com uncooled infrared focal plane arrays up through 640x512, commercial (non-Wassenaar member)
- Zhejiang Dali Technology Co., China, www.ir-thermalimagingcamera.com, uncooled infrared focal plane arrays up through 640 x 512, commercial (non-Wassenaar member)
- Debut Optoelectric Sensor Co, Ltd, China, uncooled infrared focal plane arrays up through 640x512, commercial, (non-Wassenaar member)
- Fraunhofer IMS, Germany, www.ims.fraunhofer.de, uncooled infrared focal plane arrays up through 320x240, commercial
- MikroSens, Turkey, www.mikrosens.com.tr, uncooled focal plane arrays up through 160x120, commercial
- Teledyne-Dalsa, Canada, uncooled infrared focal plane arrays up through 640x512, commercial

ECCN 6A990. Presently, this ECCN only controls certain Read-Out Integrated Circuits (ROICs) for 3D automotive imaging. This rule proposes to revise that to controlling all ROICs for focal plane arrays controlled in 6A002.a.3 (all non-space qualified FPAs) as RS-1. These ROICs are presently controlled as EAR99, a significantly lower level than RS-1. Given the wide-spread foreign availability of these items from such sources as Xenics in Belgium, sInfraRed in Singapore, Alcatel-Thales in France, New Imaging Technologies in Spain, ChungHwa/Leading-Light in Taiwan, Semiconductor Devices in Israel, Mikro-Tasarım in Turkey, Dali-Technologies in China, and Wuhan-Guide in China we urge the Department to re-evaluate this proposal.

ECCN 6A993. Our concerns with this ECCN are that 1) it only controls 6A003.b.4.b identified cameras operating at speeds of 9 Hz or less and it contains a new requirement that such cameras require a license to a military end user. We believe that based on current non-Wassenaar foreign availability this entry should be expanded to include such cameras that have an operating speed of 60 Hz or less and incorporate a focal plane array identified in 6A003.b.4.b with a maximum of

328,000 elements or less. This expansion is to help U.S. industry remain on a level footing with very capable, equivalent, and growing foreign competition. Further, we urge the department to re-evaluate its "military end user" proposal, eliminating it and pursuing the "military end use" approach to control. This approach is significantly clearer to implement and we believe achieves an equivalent end control as would the military end user approach, minus the confusion of the military end user approach.

As we stated in our opening paragraph, we applaud the Department for the significant improvements to this rule over its first proposal. This rule significantly advances the goal of controlling as commercial/dual-use those items that are commercial/dual-use. Our above recommendations regarding licensing policy are aimed at helping the U.S. remain on a level playing field against very capable and growing foreign competition. The day of commercial infrared has arrived. The foreign competition is extremely talented and expanding their markets daily. We strongly urge the Department to seriously consider our comments to help enable U.S. industry remain viable and competitive in the face of this growing foreign competition. Enabling the global competitiveness of U.S. companies will foster growth, investment in new technology, and strengthen the U.S. industrial base. That will help to ensure a continued stream of advanced technology remains available to our nation, enhancing national security.

Should you have any questions in this matter or require additional information, please contact me at (703) 412-0288 or at ghill@drs.com.

Sincerely,

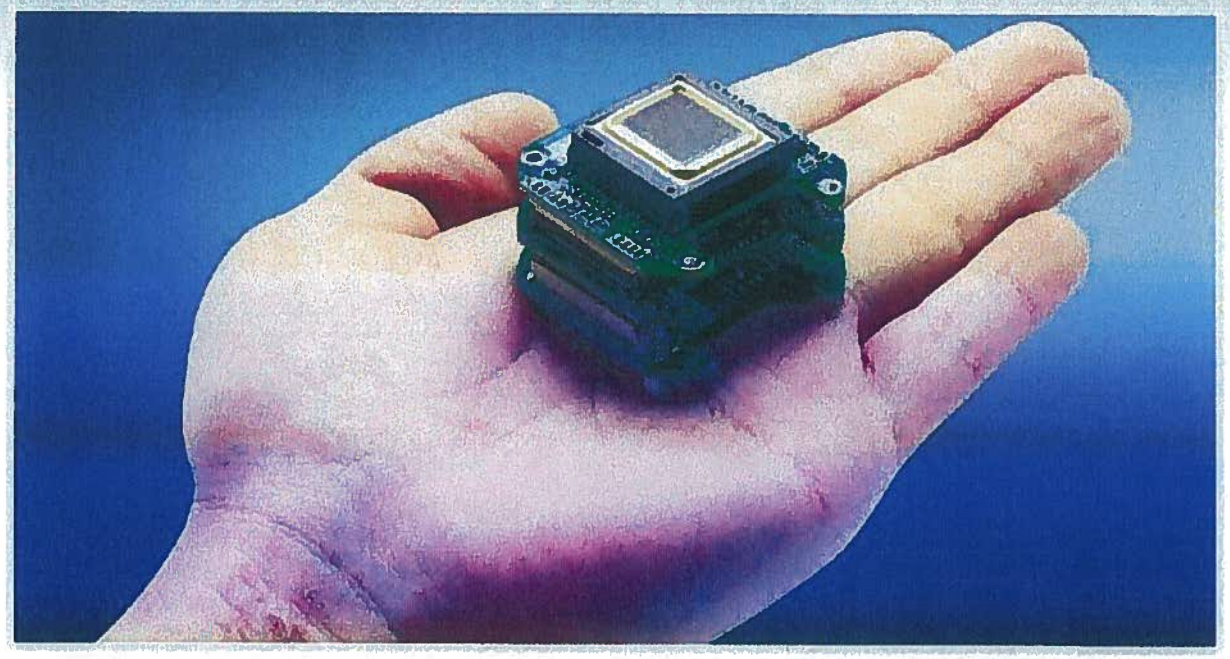
Gregory C Hill Digitally signed by Gregory C Hill
Date: 2016.04.04 19:53:13
-04'00'

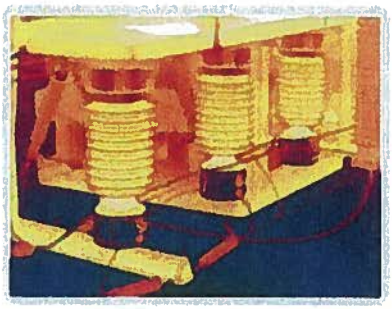
Gregory C. Hill
Vice President
Global Trade Compliance
DRS Technologies, Inc.

Attachment: Sampling of Foreign Availability

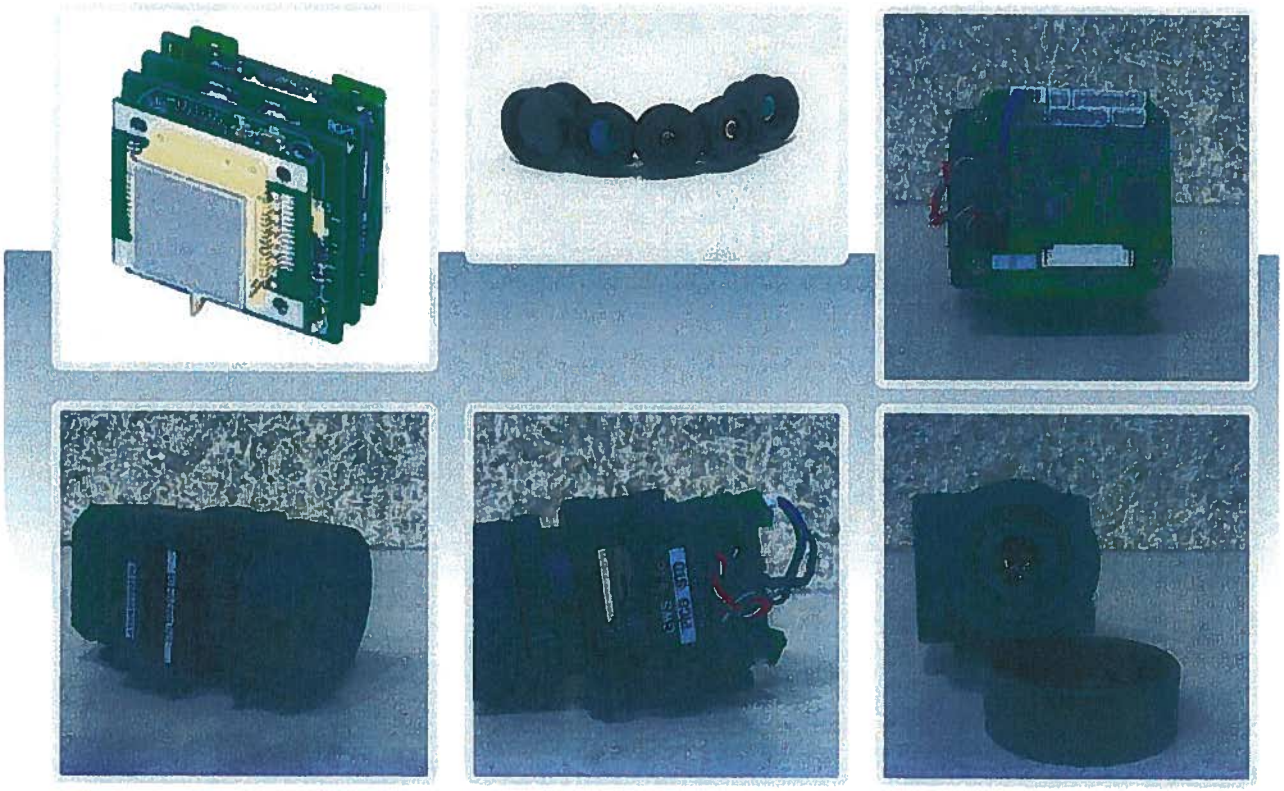
Search

Shop > Products > UnCooled LWIR Infrared sensor (8 to 14 microns)





Question? Chat or call here now!



UnCooled LWIR Infrared sensor (8 to 14 microns)

From: $1,380

Core model Choose an option...

Lens Choose an option...

Quantity Choose an option...

3 types:

- ASP-HR160 160 x 120
- ASP-HR320 384 x 288
- ASP-HR640 640 x 480

None ITAR, exportable

More informations

Categories: 8 to 14 microns LWIR, Biology & Microscopy, Defence & Security, Microbolometer. **Tags:** custom, infrared sensor, swir camera, uncooled, VS Tech lens.

Question? Chat or call here now!

Description | Additional Information

Reviews (0)

Product Description

From our offices in Canada and Taiwan R.O.C. (Republic of China) we offer uncooled IR imaging modules from 8 to 12 microns.

These sensors are highly responsive and have been adapted for a wide range of applications. The sensor can be purchased either on it's own or with a multitude of different lenses.

The high frame rate output (60Hz @ NTSC or 50Hz @ PAL) enables greater image quality for a wide range of applications than does that of other companies' models.

32 bit SDK available.

We offer the following modules:

- Uncooled Thermal Module(640×480)
- Uncooled Thermal Module(384×288)
- Uncooled Thermal Module(160×120)

HR320 Core Manual

More informations

Need a Germanium Lens design and assembly?

Standard Germanium Optical Lens

Resolution

The camera cores vary in size enabling the customer to choose the most suitable type according to their own requirements.

Compact, light and tiny

The camera core is about 50g (not including lens) and exceptionally small facilitating target integration.

Control functions

Parameters, including brightness, contrast, auto-gain can be set by the user. The customer can also establish parameters via the RS232 interface.

Digital zoom

Our camera core has 2X/4X zoom function. Digital zoom will be of great help when the target is too small to identify.

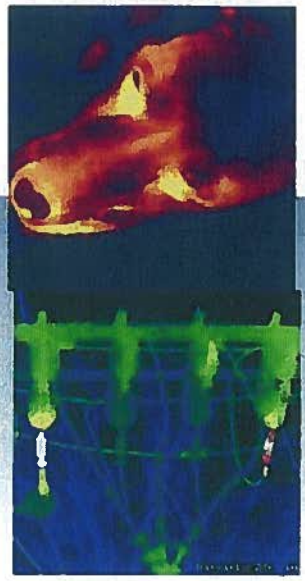
NTSC & PAL video output

We supply PAL or NTSC, 16-bit parallel digital signal or analog signal. Video format must be specified at time of order.

Contact Us for more details or to get an official quote.

Question? Chat or call here now!

Application Images:



Specifications

Type	ASP-HR160	ASP-HR320	ASP-HR640
	Imaging Performance		
Detector Type	FPA, Uncooled Microbolometer		
Resolution	160 x 120	384 x 288	640 x 480
Spectral Range	8-14 um		
Thermal Sensitivity	80mK @ 300K	50mK @ 300K	60mK @ 300K
Field of View	Lenses are optional, FOV varies according to different lenses		
Focus	Manual/Automatic		
Image Frequency	60 Hz @ NTSC or 50 Hz @ PAL		
	Image Presentation		
Video Output	PAL or NTSC, 14-bit parallel digital signal or analog signal. Video format must be specifified at time of order.		
	Power		
Working Voltage	DC 7 – 12 V		

Question? Chat or call here now!

Power Consumption	< 2W	<2.5 W	< 3 W
	Environmental Specifications		
Operating Temperature Range	-40°C to 60°C		
Storage Temperature Range	-40°C to 70°C		
Humidity	<95%, non-condensing		
	Physical Characteristics (without lens, core only)		
Size (L x W x H)	40 mm x 40 mm x 30 mm		45 mm x 45 mm x 37 mm
Weight	50g		
	Interface		
RS232	Command and Control Functions		

Applications:

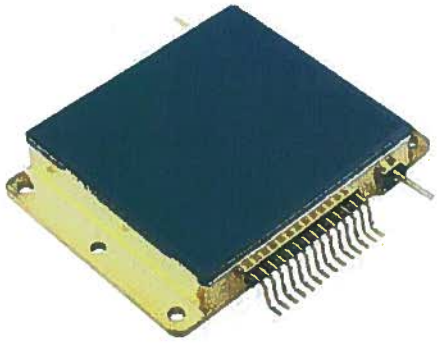
- Thermology
- Thermal Imaging for Automation
- Night Vision
- Surveillance
- Security of Nuclear Plan
- Law Enforcement
- Infrared Camera for Building Diagnostics
- Automotive Night Vision
- Aviation and Maritime Enhance Vision
- Electrical and Mechanical Thermal Imaging
- Thermal Imaging for Gas Detection
- Furnace and Boiler Inspection
- Medical/Biology
- Maritime
- Power plants
- Metal Production
- Petrochemicals

Question? Chat or call here now!

Thermal image sensors

17 µm

Gen2



PICO1024-048

Pico*1024 Gen2* ™

1024 x 768

Military

Surveillance & Security

Thermography

ULIS

Infrared for you

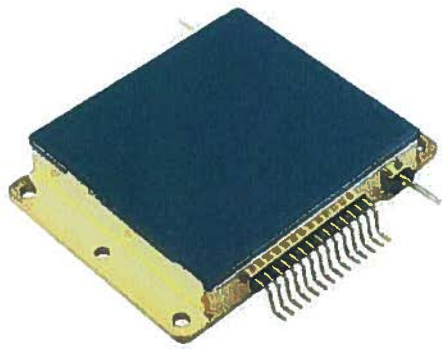
www.ulis-ir.com

PICO1024-048

Pico1024 Gen2™

1024 x 768 - 17 µm

High performance, high definition infrared imaging



PERFORMANCE

- NETD < 50 mK (F/1, 300K, 30Hz)
- Frame rate up to 120Hz
- Typical array operability > 99.9%
- Low power consumption < 210 mW
- Extended operating temperature range: - 40°C to + 85°C
- Standards: MIL-STD-810 and -883
- Over exposure / Sun safe

FEATURES

- Material: resistive amorphous silicon
- Spectral response: 8 - 14 µm
- Readout configuration driven by serial link
- Overall dimension (mm): 41.2 x 30 x 6.6 pin out excluded
- Weight < 30 g
- Easy TEC-less implementation

- **High resolution, high contrast imaging for long range detection**
- **Robust for extreme environments (e.g. TWS, RWS, situation awareness, UGS)**
- **Detects fast moving objects**
- **Reduced calibration time**
- **24/7 surveillance capable**
- **Footprint compatible with UL05251-026**

ULIS IN BRIEF

- A unique business model designed to serve OEMs
- High production capacity
- High-performance and cost-effective products
- Guaranteed product availability
- Customer partnership to assure success
- A dedicated customer support team

ULIS
Infrared for you

ZI Les Iles Cordées
BP 27 - 38113 Veurey Voroize - France
Phone: +33 4 76 53 74 70 - Fax: +33 4 76 53 74 80
www.ulis-ir.com - ulis@ulis-ir.com

ULS-02-2015/01

Groupe SOFRADIR

Pictures: ULIS - Layout: Komago - Printing: in France - All right reserved
This document contains proprietary information of ULIS. This document is not to be copied in whole or part. Information furnished in this statement herein is believed to be accurate and reliable. However, ULIS assumes no responsibility for the consequences which may result from its use. Information mentioned in this statement are subject to change without notice

BIRD XGA

1024 x 768, 17µm pixel pitch VOx Microbolometer

Description

Bird XGA is a large format of uncooled LW IR detector, specially designed to address high-end, high performance applications. The detector ROIC integrates a low-noise high sensitivity and wide dynamic range.

Bird XGA is enhanced with the cutting edge Vanadium-Oxide technology, thus providing the ultimate sensor device for both military and civil applications.

Applications

- Thermal gun site
- Long-range surveillance systems
- Missile's applications
- Remote weapon station
- Long-range flame detection
- Driver's night-vision systems
- EO/IR tactical payloads

Main Features

- Vanadium Oxide technology
- Uncooled operation with or without TEC
- 4 analog outputs
- Rolling mode bottom-to-top scanning
- 1024x768 pixels focal-plane array
- 17µm pixel pitch
- Internally computed coarse-NUC (optionally also R/W)
- Adjustable GAIN & Integration time
- Parallel/Serial communication
- Built-in (CMOS) FPA temperature diode gauge 6mV/K
- Mil-std qualification

SemiConductor Devices

Typical Specification

PARAMETER	PERFORMANCE
Spectral Response	8μm-12μm
Array Format	1024 x 768
Nominal Frame-Rate	60Hz
Video Output Span	2V (0.5V÷2.5V)
Power Supplies	Bolometer 6.5V; Video O/P 5.5V; Digital 1.8V
Power Dissipation	700mW (@60Hz frame rate, 25°C FPA Temp)
Temporal NETD	<45mK (F#/1, 25°C FPA Temp, 60Hz frame rate)
Thermal Time Const	12mSec
Dynamic Range	100°C (nominal gain)
Response	5mV/K to-50mV/K (selectable)
Pixel Operability	99.5%
FPA Temp. control	Thermo-Electric-Cooler
Size	52mm X 52mm X 11mm (excluding pins & vacuum tube)
Weight	32g
Operating Temp	Minus 40°C to Plus 71°C
Storage Temp	Minus 40°C to Plus 80°C
Vacuum Life Time	14 years (at 25°C Storage temp)

www.studio3.co.il

405265SCD/UNC/1212

SemiConductor Devices
• P.O. Box 2250, Haifa 31021 Israel • Tel: (+972)-4-9902535 9902500
• Fax: (+972)-4-9902627 • e-mail: marketing@scd.co.il • Web: www.scd.co.il

北方广微

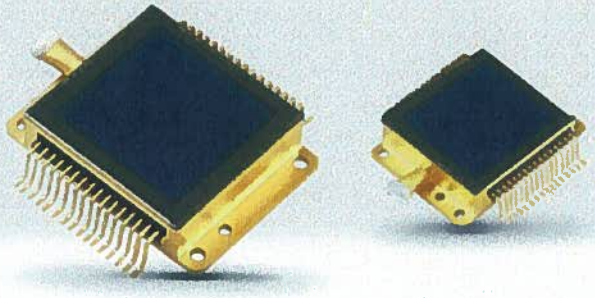
中文

Home | About us | Products | Application | News | Contact Us

GWIR 0302X1A

640X512

20μm



	Military	Standard
Material	VOx	VOx
Array format	640×512	640×512
Pixel-pitch	20μm	20μm
NETD(@1/f, 300K, 50Hz)	50mK	80mK
Area fill factor	70%	70%
Spectral response	8-14μm	8-14μm
Thermal time constant	15ms	15ms
Non-operating pixel	<0.1% (the central area of 160X128 without 4 consecutive bad spot)	<0.3%
Typical signal response	12mV/K	12mV/K
Frame rate (Max)	50Hz	50Hz
Dynamic range	≥70db	≥70db
Output signal	Two analog output	Two analog output
Power consumption (excluding TEC)	300mW	300mW
Operating temperature range	-40℃~+60℃	0℃~+60℃
Storage temperature range	-55℃~+70℃	-10℃~+70℃
Weight	25g	25g

Product specifications

North Guangwei Technology INC (GWIC)
North Real Estate Building, No. 81
ZiZhu Yuan Road
HaiDian District, Beijing

Description

The Uncooled Microbolometer infrared FPA detector researched and developed by Dali has already been applied in industrial production, has the advantages of high resolution, high sensitivity, low thermal noise and fast response. The detector are much suitable for thermography,security surveillance, vehicle night vision and various other applications.

Features

640×480 resolution (17μm)
Frame rate 25~50Hz
High uniformity, low thermal noise
hort integral time, high sensitive
Extended operating temperature range -40℃ to +60℃
Military standard qualification
Fully self-intellectual property

DALI

Zhejiang Dali Technology Co., Ltd. (DALI)
639 Binkang Road
Hangzhou, People's Republic of China

Sign In | Join Free My Alibaba

On Site What are you looking for...

Get Quotations

6YRS Zhejiang Dali Technology Co.,... Add Company to My Favorites

Onsite Check

6YR

Home Product Categories Company Profile Contacts

Home > Product Categories > Thermal Imaging Module

Search products here

Product Showcase

Product Categories

- Human Body Temperature ...
- Uncooled Infrared FPA Det...
- Thermal Imaging Module
- Industry Temperature Meas...
- Online temperature measur...
- Dedicated Type Thermal I...
- Handheld infrared security...
- Online observation thermal...
- Online observation thermal...
- Online temperature measur...

See All Categories

New Products

TE-W1low temperature camera

S660 night vision surveillance ther...

Thermal Imaging Module

View as: 1 of 1 Page

Selected Products (0/20) Contact Supplier Start Order

Click to select products and contact the supplier.

Thermal imaging camera module 384*288/640*480 pixel

Min. Order: 1 Piece

D881 Security Imaging Camrea 384x288 pixel

Min. Order: 1 Unit

FOB Price: US $ 800 - 2800 / Unit

Thermal Imaging Module Infrared 384*288/640*480

Min. Order: 1 Piece

security camera module 384*288/640*480

Min. Order: 1 Piece

D840/D880 Infrared Module 384*288/640*480 pixel

Min. Order: 1 Piece

D881drone security thermal camera

Min. Order: 1 Unit

FOB Price: US $ 800 - 2800 / Unit

S660 Vision goggles in the dark

LT3 camera thermal infrared

Display similar products

1

Go to Page Go

Hot products

EX Vehicle anti-fog infrared therma...

Dali DL700 Thermal Imaging Camera 6...

thermal night vision imaging binocu...

Thermal imaging camera module 384*2...

S660 384x288 resolution security su...

Related Products

LT3 portable infrared thermal imagi...

LT7 handheld 384*288 resolution inf...

T4 portable thermal imaging camera ...

S230 security infrared thermal imag...

Contact Customer Service

Kathy Zhou | Aleksandr yu | Shengyue XUE | Judith zhou | Jack Chen | Nick song

Email to this supplier

To: Nicholas Hong

*Message: Enter your inquiry details such as product name, color, size, MOQ, FOB, etc.

Your message must be between 20-8000 characters

I agree to share my **Business Card** to the supplier.

Send

Alibaba.com Site: International - Español - Português - Deutsch - Français - Italiano - हिंदी - Русский - 한국어 - 日本語 - اللغة العربية - ภาษาไทย - Türk - Nederlands - tiếng Việt - Indonesian - עברית

Alibaba Group | Taobao Marketplace | Tmall.com | Juhuasuan | AliExpress | Alibaba.com | 1688.com | Alimama | Alitrip
Alibaba Cloud Computing | YunOS | AliTelecom | HiChina | Autonavi | UCWeb | Umeng | Xiami | TTPod | Laiwang | DingTalk | Alipay

Browse Alphabetically: Global Expo | Showroom | Country Search | Manufacturers | Suppliers | Promotion | Wholesaler

Contact Us - Product Listing Policy - Intellectual Property Policy and Infringement Claims - Privacy Policy - Terms of Use

© 1999-2016 Alibaba.com. All rights reserved.

Sign In | Join Free My Alibaba

On Site What are you looking for...

Get Quotations

6YRS Zhejiang Dali Technology Co.,... Add Company to My Favorites

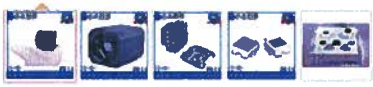
Onsite Check

6YR

Home Product Categories Company Profile Contacts

Home > Product Categories > Thermal Imaging Module

See larger image



Thermal imaging camera module 384*288/640*480 pixel

FOB Price:	Get Latest Price
Min Order Quantity:	1 Piece/Pieces
Port:	Hangzhou
Payment Terms:	T/T

Contact Supplier Leave Messages

Start Order Request Sample

Trade Assurance

Place order online and pay to the designated bank account to get full protection.

Payment protection

On-time shipment

Product quality protection

Add to My Cart Add to My Favorites

6YRS Zhejiang Dali Technology Co., Ltd.

China (Mainland) | Manufacturer Trading Company

Supplier Assessments:

Response Time 24h-48h

Response Rate 90.7%

Contact Detail

Search products here

Product Showcase

Product Categories

Human Body Temperature...

Uncooled Infrared FPA Det...

Thermal Imaging Module

Product Detail

Report Suspicious Activity

Quick Details

Place of Origin: Zhejiang, China (Mainland)	Brand Name: Dali	Model Number: D840/D880
Type: Digital Camera	Style: Mini Camera	Sensor: Uncooled FPA microbolometer
Technology: Infrared	Special Features: Uncooled FPA microbolometer	Array size: 384*288/640*480
		Frame rate: 50Hz
Weight: ≤76g(including housing,shutter)	Electrical connector: 26 pins connector (including cable)	

Industry Temperature Meas...
Online temperature measur...
Dedicated Type Thermal I...
Handheld infrared security...
Online observation thermal...
Online observation thermal...
Online temperature measur...

Main Products

Thermal imaging camera module 384*2...

D881 Security Imaging Camrea 384x28...

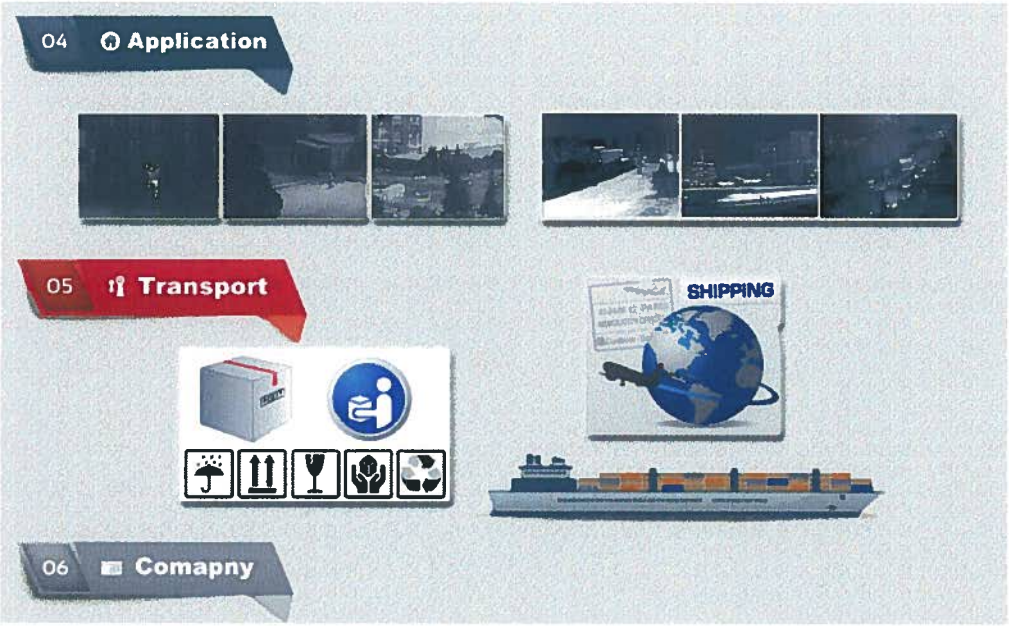
Thermal Imaging Module Infrared 384...

security camera module 384*288/640*...

D8XX module mainly used by system integration,
provide customer DC4.7-5.3V the scope of the power input interface,
UART port communication, BIT656 or standard timing 14bit video signal transmission channel.
Easy for customer to use ARM,DSP,FPGA kind of platform seamless docking, rapid development

03 Specification

Items		Technical specifications	
		D880	D840
Detector characteristics	Detector type	Uncooled FPA microbolometer	
	Array size	384×288	640×480
	Pixel	17um	17um
	Spectral range	8~14um	
	Temp control	TEC	
	NETD	≤60mK(f/1,300K,25-50Hz)	
	Thermal time constant	≤5ms	
Image characteristics	Frame rate	50Hz	
	Display resolution	768×576	640×480
	Analog video output	PAL	
	Digital Video(optional)	14-bit/8-bit(BIT656)	
	Gain/Brightness adjustment	Manual brightness/gain ;auto brightness/manual gain;auto brightness/gain	
	Digital zoom	X1/X2/X3/X4	
	Calibration	Manual and Auto	
System	Communication Protocol	PELCO-D	
characteristics	Image Enhancement	YES,enhance the ability to detect the small object	
	Image Filter	YES,Digital filter	
	Polarity inversion	White/black hot mode	
Power supply	External power	DC 5V±0.2V	
	Power consumption	≤1.8W(normal atmospheric temp)	≤2W(normal atmospheric temp)
Electrical interface	Power interface	YES	
	Analog video output	YES	
	Digital Video output	14bit	
	Serial port	TTL 3.3V UART	
Environment	Operation temperature	-15℃~ +50℃ (Can expanded to -40℃~ +60℃)	
	Storage temperature	-40℃~ +70℃	
	Humidity	5~95%,Non condensing	
physical characteristics	Size(mm)	W40mm× H41mm× D35mm	
	Weight	≤76g(including housing,shutter)	
	Lens mount interface	M34×0.75 ;screw thread	
	Mechanical interface	2×M3(four sides);screw hole	
	Electrical connector	26 pins connector(including cable)	


04 Application
05 Transport
SHIPPING
06 Comapny

Email to this supplier

To: Nicholas Hong

*Message: Enter your inquiry details such as product name, color, size, MOQ, FOB, etc.

Your message must be between 20-8000 characters

Quantity: 1 Piece/Pieces

☐ Recommend matching suppliers if this supplier doesn't contact me on Message Center within 24 hours. **AllSourcePro**

☐ I agree to share my **Business Card** to the supplier.

Send

Related Products

Related Keywords

high resolution module | night vision camera module | security camera module

Alibaba.com Site: International - Español - Português - Deutsch - Français - Italiano - हिंदी - Русский - 한국어 - 日本語 - اللغة العربية - ภาษาไทย - Türk - Nederlands - tiếng Việt - Indonesian - עברית

Alibaba Group | Taobao Marketplace | Tmall.com | Juhuasuan | AliExpress | Alibaba.com | 1688.com | Alimama | Alitrip
Alibaba Cloud Computing | YunOS | AliTelecom | HiChina | Autonavi | UCWeb | Umeng | Xiami | TTPod | Laiwang | DingTalk | Alipay

Browse Alphabetically: Global Expo | Showroom | Country Search | Manufacturers | Suppliers | Promotion | Wholesaler

Contact Us - Product Listing Policy - Intellectual Property Policy and Infringement Claims - Privacy Policy - Terms of Use

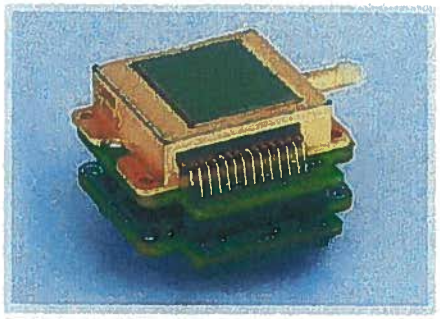
© 1999-2016 Alibaba.com. All rights reserved.

DALI
ZHEJIANG DALI TECHNOLOGY CO.,LTD
Professional Thermal Imaging Products Manufacturer
Sales & Support 86-571-88895666
Request A Quote - Email
Select Language
Home Products About US Factory Tour Quality Control Contact Us Request A Quote
Home > Products > Thermal Imaging Module > Manual Portable Thermal Imaging Module , 640X480 Thermal Camera Module

All Products
- IR Thermal Imaging Camera (34)
- Night Vision Thermal Imaging Camera (24)
- Handheld Thermal Imaging Camera (12)
- Uncooled Infrared Detectors (4)
- Thermal Imaging Module (6)
- Industrial Thermal Imager (14)
- Fixed Thermal Imaging Camera (20)
- Remote Thermal Imaging Camera (7)
- Long Distance Security Cameras (18)
- Thermal Security Camera (24)
- CCTV Surveillance System (17)
- Firefighter Thermal Imaging Camera (3)
- Vehicle Thermal Imaging Camera (3)
- Gas Detection Camera (3)

I'm Online Chat Now
Contact US Today

Manual Portable Thermal Imaging Module , 640X480 Thermal Camera Module



Large Image : Manual Portable Thermal Imaging Module , 640X480 Thermal Camera Module

Product Details:

Place of Origin:	Zhejiang, China (Mainland)
Brand Name:	DALI
Certification:	CE
Model Number:	D840

Payment & Shipping Terms:

Minimum Order Quantity:	1
Packaging Details:	basis on incasement request
Delivery Time:	2-4 weeks
Payment Terms:	L/C,T/T
Supply Ability:	200 Unit/Units

Contact us now

Detailed Product Description

Manual Portable Thermal Imaging Module , 640X480 Thermal Camera Module

Quick Detail:

Place of Origin: Zhejiang, China (Mainland)
Brand Name: DALI
Model Number: D880
Usage: Security
Theory: Infrared Thermometer
Detector type: Un-cooled FPA micro-bolometer
Array size: 640X480
Pixel size:17μm
Thermal sensitivity: ≤80mK(f/1,300K,25-50Hz)
Temp control: TEC
Digital zoom: 2X,3X,4X
Power consumption: ≤2W(normal atmospheric temp)
Frame frequency: 50Hz

Description:

DALI detector contributes to high price & performance ratio
Small size & Low weight, multiple interface, easy for your integration
High resolution, good image quality
Low consumption for longer continuation
Pseudo color optional for your easy observation
Low and wide voltage power supply,0.5V~5V
Wide operational temperature extended to -40℃~ +60℃

Applications:

Marine navigation
Personal security
Border surveillance
Hunting
Law enforcement

Technical specification:

		D840
Detector characteristics	Detector type	Uncooled FPA microbolometer
	Array size	640X480
	Pixel	17um
	Spectral range	8～14um
	Temp control	TEC
	NETD	≤60mK(f/1,300K,25-50Hz)
	Thermal time constant	≤5ms
	Frame rate	50Hz
	Display resolution	640x480

Environment	Operation temperature	-15℃~ +50℃ (Can expanded to -40℃~ +60℃)
	Storage temperature	-40℃~ +70℃
	Humidity	5~95%,Non condensing
physical characteristics	Size(mm)	W40mm× H41mm× D35mm
	Weight	≤76g(including housing,shutter)
	Lens mount interface	M34×0.75 ;screw thread
	Mechanical interface	2×M3(four sides);screw hole
	Electrical connector	26 pins connector(including cable)

Competitive Advantage:

- Extremely compact and extremely light
- Image capture and recording

Contact Details

ZHEJIANG DALI TECHNOLOGY CO.,LTD
Contact Person: Mr. Steve
Tel:86-571-86695666
Fax:86-571-86695600

Send your inquiry directly to us

Please enter the inquiry details, such as product name, color, size, MOQ, FOB, etc.

(0 / 3000)

Submit

Other Products

- Small Size OEM Thermal Imaging Module For System Integration , 384X288
- Low Power Consumption Un - cooled Thermal Imaging Module For Hunting
- Universal Un - cooled Infrared Thermal Imaging Module For Coastal Defense
- Lightweight Thermal Imaging Cores For Port security , Thermal Imaging Camera Module
- 8-14um IP54 Industrial Thermal Imaging Module For Security Surveillance

About Us
- Company Profile
- Factory Tour
- Quality Control

IR Thermal Imaging Camera
- Auto Gas Detection IR Thermal Imaging Camera , Industrial Thermal Imager For Insulation Failure
- Parking Pot IR Thermal Imaging Camera , Industrial Thermal Imager
- Industrial IP67 IR Thermal Imaging Camera For Component Detective

Night Vision Thermal Imaging Camera
- CCD Visual Night Vision Thermal Imaging Camera , Infrared Thermal Imager With PTZ
- Double Visual IR Thermal Imaging Camera , CCTV Security Systems
- Online Industrial Night Vision Thermal Imaging Camera , Box Video Camera

Handheld Thermal Imaging Camera
- Fire Rescue Handheld Thermal Imaging Camera With Temperature Measurement Function
- Waterproof Digital Handheld Thermal Imaging Camera , 3.6" Touch Screen
- Lightweight Un - cooled IP54 Handheld Thermal Imaging Camera , 160*120

Contact Us
- Contact Info
- Request A Quote
- E-Mail
- Sitemap

New Imaging Technologies: design and manufactures CMOS imaging sensors and CMOS cameras which include smart sensor features and wide dynamic range. The

New Imaging Technologies

WDR InGaAs Product Range

Description

For laser measurements, high temperature thermography, Coastal surveillance, bio medical imaging, waste sorting...

NIT introduces his new **WDR InGaAs products family**, including **sensors and camera modules**.

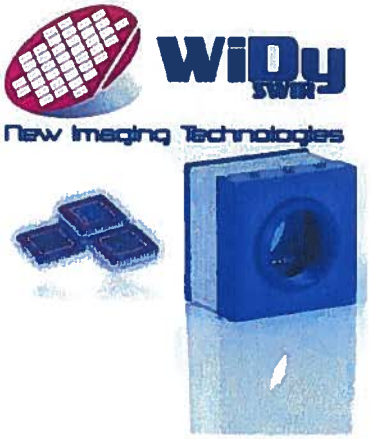
NIT Short Wave Infrared (SWIR) products are based on a proprietary **Wide Dynamic Range ROIC technologies** and offer a **Dynamic Range (DR) of more than 140dB in a single image without any external control.**

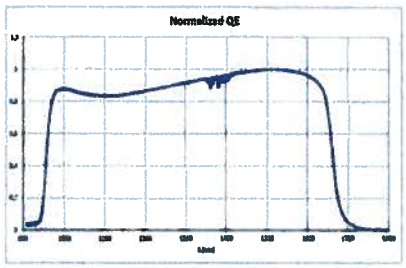
The internal Fixed Pattern Noise correction gives a **high uniformity pcitures in all light conditions** with no need of Look-up table.

The NIT WDR InGaAs sensors use **InGaAs photodiodes array** operating **from 900nm up to 1700nm** with a high QE and coupled to a patented Read Out Circuit (ROIC).

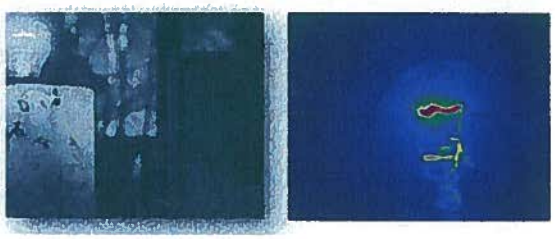
The camera modules, WiDy SWIR family, offer different interfaces compatibility with an exterme ease of use :

- The **digital version** are delivered with a full Software development kit (SDK), WiDy View, operating under Microsoft Windows.
- The **analog version** gives direct SWIR video flux through composite connection.





Spectral response



WDR InGaAs Sensors Family

White papers & Application Notes

Native WDR™ Technology : Novel Wide Dynamic Range CMOS imagers

ESSCIRC 2001 : A CMOS Image sensor with on-chip FPN compensation

Native WDR™ Sensor Technology for Welding Applications

DSS SPIE 2011 : Wide Dynamic Range ROIC & InGaAs for SWIR imaging

ISW2011 : Native WDR Sensor Technology

	Resolution	Pixel Size (µm²)	Optical Format	Frame Rate	Dynamic Range	Trigger In/Out	Output	Related Documents
NSC0803-SI	320 x 256	25x25	2/3"	150fps	140 dB	Rolling	Analog	On request
NSC1101-SI	640 x 512	15x15	1"	60fps	140 dB	Rolling	Analog	On request
NSC1201-SI	640 x 512	15x15	1"	60fps	140 dB	Snapshot	Analog	On request

WDR InGaAs Modules Family

Camera	Resolution	Output	Frame Rate	ADC	Operation Mode	Dynamic Range	Trigger In/Out	Software	Related Documents
WiDy SWIR 320A	320 x 256	Analog TV	50/60fps	--	Rolling shutter	140 dB	--	--	On request
WiDy SWIR 320U	320 x 256	USB 2.0	140fps	14 bit	Rolling shutter	140 dB	Trigger In/Out	WiDy View SDK	On request
WiDy SWIR 640U	640 x 512	USB 2.0	60fps	14 bit	Rolling shutter	140 dB	Trigger In/Out	WiDy View SDK	On request
WiDy SWIR 640A	640 x 512	Analog TV	50/60fps	--	Rolling shutter	140 dB	--	--	On request

See a video on our WiDy Swir

More information

Our General Terms & Conditions

© New Imaging Technologies | Contact : 1-4 impasse de la noisette, Bat D, 1er Etage - 91370 Verrières le Buisson - France
Legal statements - Credit

Mikro Tasarım San. ve Tic. Ltd. Şti

EN TR

ROIC Products

MT6425CA
CTIA ROIC
640x512 format
25µm pixel pitch
Si, InGaAs, MCT

MT6415CA
CTIA ROIC
640x512 format
15µm pixel pitch
Si, InGaAs, MCT

MT12815CA
CTIA ROIC
1280x1024 format
15µm pixel pitch
Si, InGaAs, MCT

MT3825BA
µBolometer ROIC
384x288 format
25µm pixel pitch
Resistive Pixels

MT6425DA
DI ROIC
640x512 format
25µm pixel pitch
InSb, QWIP, MCT, T2SL

MT6415DA
DI ROIC
640x512 format
15µm pixel pitch
InSb, QWIP, MCT, T2SL

MT12815DA
DI ROIC
1280x1024 format
15µm pixel pitch
InSb, QWIP, MCT, T2SL

MT3817BA
µBolometer ROIC
384x288 format
17µm pixel pitch
Resistive Pixels

MT6420DDA **MT6410DA** **MT12810DA** **MT6417BA**

Dual-DI ROIC
640x512 format
20µm pixel pitch
InSb, QWIP, MCT, T2SL

DI ROIC
640x512 format
10µm pixel pitch
InSb, QWIP, MCT, T2SL

DI ROIC
1280x720 format
10µm pixel pitch
InSb, QWIP, MCT, T2SL

µBolometer ROIC
640x480 format
17µm pixel pitch
Resistive Pixels

MT6425DDA

Dual-DI ROIC
640x512 format
25µm pixel pitch
InSb, QWIP, MCT, T2SL

MT3825DDA

Dual-DI ROIC
384x288 format
25µm pixel pitch
InSb, QWIP, MCT, T2SL

MT10225DDA

Dual-DI ROIC
1024x768 format
25µm pixel pitch
InSb, QWIP, MCT, T2SL

MT10217BA

µBolometer ROIC
1024x768 format
17µm pixel pitch
Resistive Pixels

MT20415SA

SF ROIC (Astronomy)
2048x2048 format
15µm pixel pitch
Si, InGaAs, InSb, MCT

MT40915SA

SF ROIC (Astronomy)
4096x4096 format
15µm pixel pitch
Si, InGaAs, InSb, MCT

MT40910SA

SF ROIC (Astronomy)
4096x4096 format
10µm pixel pitch
Si, InGaAs, InSb, MCT

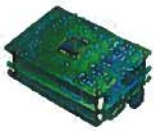
MT6412BD

µBolometer D-ROIC
640x480 format
12µm pixel pitch
Resistive Pixels

Test Electronics and Demo Cameras

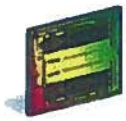
MT-USB-CAM-6415

NanoCAM-6415



MT-USB-CAM-E6415

ROIC Driver and Digitizer ASIC Products



MTAS1410X2 / MTAS1410X4 (ROIC Driver and Digitizer ASICs)

Product Properties	
DI	Direct Injection
CTIA	Capacitive Trans-Impedance Amplifier
SF	Source Follower
ROIC	Readout Integrated Circuit
D-ROIC	Digital ROIC
Si	Silicon
InSb	Indium Antimonide
InGaAs	Indium Gallium Arsenide
MCT	Mercury Cadmium Telluride
QWIP	Quantum Well Infrared Photodetector
Dual-DI	Dual-Polarity Direct Injection
T2SL	Type II Superlattice
ASIC	Application Specific Integrated Circuit

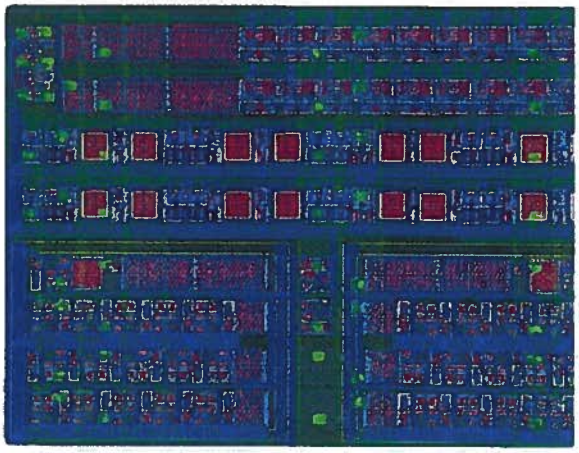
©2015 Mikro-Tasarım. All rights reserved. Back to top

Custom infrared ROIC design

Custom ROIC design

Our ROIC design team is a group of highly skilled analog and digital designers. They design ROICs for InGaAs, QWIP, MCT, Bolometer, hybrid visible sensors or new emerging technologies. They create complex, high performance analog and digital full-custom CMOS integrated circuits. These offer major advantages to customers who seek customized solutions in applications where state-of-the-art designs are needed.

You can find examples of our designs in industrial automation, aerospace and aviation systems, automotive applications, (bio)-medical instrumentation, telecommunication, fiber optic sensing, and consumer products.



Full-custom designs generally require low noise, low dark current, or low power operation combined with high speed. Camera applications seek optimizations for short or long exposure times; complex windowing capability, specific pixel layouts. All these designs focus on the best possible performance level for a specific application, while keeping interfaces simple and recurring production costs low.

What do we offer?

Xenics has experience in a wide range of technologies and system applications but particularly in the field of infrared vision sensors. Our experience includes designs for high-performance, one-dimensional and two-dimensional, cooled as well as uncooled sensors for wavelengths ranging from NIR over SWIR, MWIR to LWIR.

Can't find what you're looking for?

Contact your regional support or sales team for help and detailed information.

GET IN CONTACT »

Xlin detector series

The Xlin detector series supports a unique combination of features for high-speed imaging applications in machine vision and spectroscopy

LEARN MORE»

Xlin-1.7-3000

The high resolution Xlin-1.7-3000 InGaAs detector is specifically designed for earth observation

LEARN MORE »

XFPA-1.7-640-LN2

The XFPA-1.7-640-LN2 excels in performance for any R&D spectroscopy or semiconductor failure analysis task

LEARN MORE »

DOCUMENTS

PRESS RELEASES

Xenics InGaAs SWIR detector is part of the Proba-V space mission

Three Xlin-1.7-3000 linear arrays are launched into space aboard the ESA's Proba-V satellite (2013)

WHITEPAPERS

First results of the Xlin-1.7-3000 on board of the Proba-V satellite

The design, the qualification and the results of the Xlin-1.7-3000 on board of Proba-V satellite

News Events

ALL THAT'S NEW

Type - ANY -

CORPORATE NEWS

Xenics strengthens Marketing and Sales for future growth

05/05/2015

PRODUCT NEWS

XCO-640: Stirling Cooled MWIR Imaging Core

20/04/2015

TECHNOLOGY NEWS

Customer success story for portable border security

18/02/2015

PRODUCT NEWS

High temperature thermography research using the world's fastes SWIR camera

09/02/2015

Professional service, knowledge and advice!

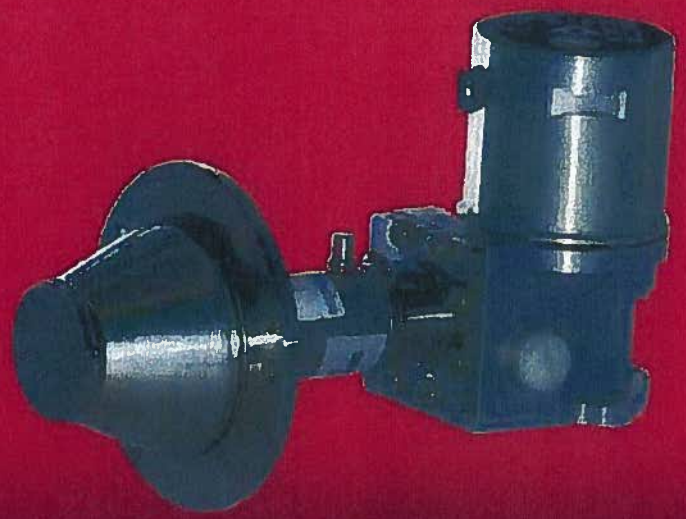
Secure in Air appreciates the professional service, knowledge and advice of Xenics in implementing the Gobi camera in our project GeoCampro. Our client was more than satisfied with the results, looking for (thermal) defects in the railways.

Robert de Nes, Secure in Air

© 2015 Xenics

Selex ES

A Finmeccanica Company



Optronics Systems

MERLIN
LONG WAVE INFRARED DETECTOR

Selex ES designs, develops and manufactures Infrared (IR) detectors at its dedicated facility in Southampton, UK. With a reputation for providing customers with the best in high performance and cost-effective technology for IR camera systems, Selex ES offers a unique level of expertise.

The Merlin Long Wave Infrared (LWIR) detector is a 1024 x 768 Mercury Cadmium Telluride (MCT) Integrated Detector Cooler Assembly (IDCA). The Merlin LWIR detector is designed for very high performance imaging in the 8 - 10μm waveband.

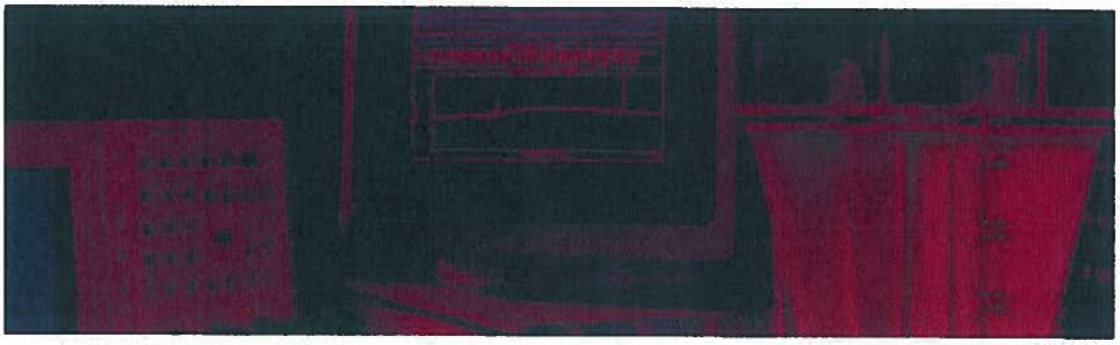
Using the Selex ES MCT process, the Merlin LWIR detector provides the highest environmental integrity along with the superior performance of focal plane detectors.

MAIN FEATURES

- Snapshot or interlaced operation
- Simple to use
- Long Wave (LW) 8 – 10μm
- Interlaced mode doubles charge capacity in each pixel for improved NETD
- High electro-optic performance with low crosstalk, automatic anti-blooming at the pixel level and excellent sensitivity
- Windowing gives enhanced frame rates over selected areas of the array
- Small element pitch enables miniaturisation of the Dewar assembly and optics
- Higher operating temperature than QWIPs
  - Longer cooler life
  - Less in-service support
  - Lower through-life cost
- Extremely short stare times for much less motion blur than QWIPs

KEY BENEFITS

- Low cost
- Compact
- Ultra high resolution
- High sensitivity



TECHNICAL SPECIFICATIONS

Format	
Array	1024 x 768 pixels
Pixel Pitch	16µm
Active Area	16.38 x 12.29mm

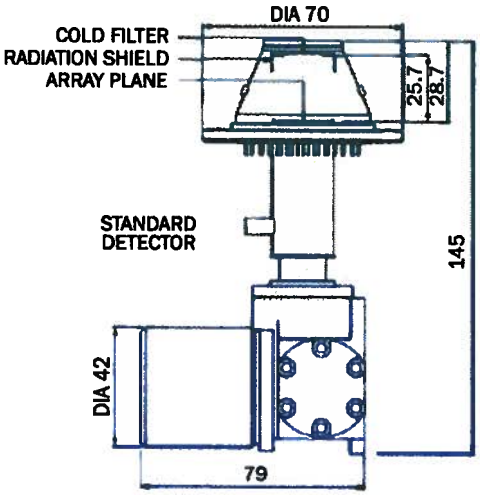
Typical Performance	
NETD (median)	32mK (23mK interlaced mode)
Pixel Operability	>99%

Interface Parameters	
Modes	Snapshot or interlaced
Configuration Control	Single serial interface
Output Voltage Range	2.5V
Charge Capacity	7×10^6 electrons (14×10^6 interlaced mode)
Number of Outputs	8
Pixel Rate	Up to 10MHz per output
Intrinsic MUX noise	50MV rms
Array Operating Temperature	Up to 90K
Nominal Operating Voltage	6V
Minimum Pins for Operation	20
Number of Input Clocks	1
Window Material	Germanium
Window Thickness	1.73mm
Cold Filter Material	Silicon
Cold Filter Thickness	0.4mm

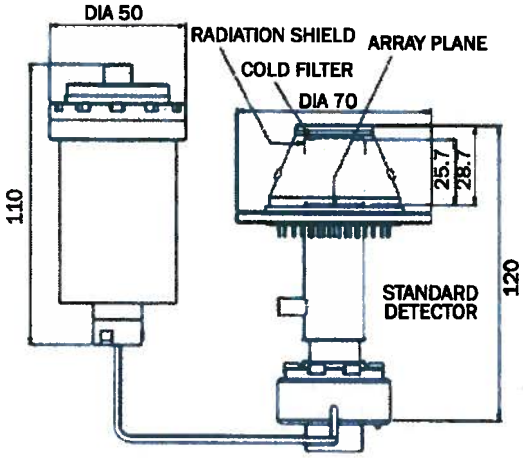
IDCA	
Weight	<750g
Power Consumption	<10W steady state
Cooling Engine	Rotary Stirling engine
Operating Temperature Range	-40°C to +70°C

LINEAR ENGINE VARIANT	
Weight	950g
Power Consumption	<15W steady state
Cooling Engine	Linear Stirling engine
Operating Temperature Range	-40°C to +70°C

IDCA



LINEAR ENGINE VARIANT



All dimensions in millimetres

For more information please email infomarketing@selex-es.com
Selex ES Ltd - A Finmeccanica Company
Millbrook Industrial Estate, Southampton, Hampshire, SO15 0LG, United Kingdom, Tel: +44 (0) 23 8070 2300, Fax: +44 (0) 23 8031 6777
This publication is issued to provide outline information only and is supplied without liability for errors or omissions. No part of it may be reproduced or used unless authorised in writing.
We reserve the right to modify or revise all or part of this document without notice.
2014 © Copyright Selex ES Ltd

IR nova

IR Detectors
for advanced imaging applications

APPLICATIONS

- Defense, Security and Surveillance
- Search and Rescue
- Process control and gas detection
- R&D and Space

FEATURES

- MWIR and LWIR products
- Quantum Well and T2SL based detectors
- Various formats and cooling options
- Easy-to-use proximity electronics
- Small and versatile designs

DETECTOR OPTIONS

Type	Resolution	Pitch
MWIR / T2SL	640 x 512	15 µm
LWIR / QWIP	640 x 512	25 µm
LWIR / QWIP	640 x 480	25 µm
LWIR / QWIP	384 x 288	25 µm
LWIR / QWIP	320 x 256	30 µm
SF_6 / QWIP (10.55)	320 x 256	30 µm
MWIR / T2SL	320 x 256	30 µm
CH_4 / T2SL (3.30)	320 x 256	30 µm

IDCA OPTIONS

Type	Features
Split cooler	Long life time Low noise and vibration Separated heat removal
Integral cooler	High efficiency Compact Low weight

Customized products available upon request

PRELIMINARY

DAPHNIS-HD MW

1280 x 720 - 10 µm pitch - MCT

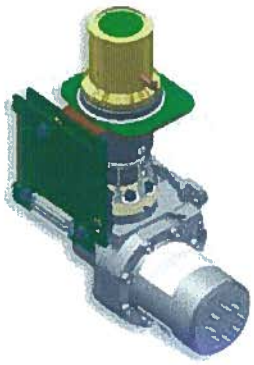
DAPHNIS-HD MW is the suitable product for all your applications requiring 16:9 HD format: airborne, naval, and ground vehicles.

This new innovation of the smallest pixel pitch from Sofradir guarantees:

- **COMPACTNESS**
- **HIGH RESOLUTION**
- **LONGER RANGE**
- **LARGER FIELD OF VIEW**
- **IMPROVED RELIABILITY**

DAPHNIS-HD MW takes full advantage of Sofradir latest HgCdTe technologies. It provides simplified interfaces for an easy and quick integration in your systems.

The proxy board offers management and correction of the detector as well as digital output.



ARRAY FEATURES	
Format	1280 x 720
Pixel pitch	10 µm x 10 µm
Detector spectral response	3.4 µm – 4.9 µm
FPA Operating Temperature	110 K typical

ROIC (READ-OUT INTEGRATED CIRCUIT)	
ROIC architecture	Digital outputs; Direct Injection input circuit
ROIC functionalities	Programmable integration time, anti-blooming, invert/revert; binning, snapshot operation, selectable read mode (IWR or ITR), programmable windowing
Charge Handling capacity	0.7 Me-, 2.2 Me-, 4.4 Me-

INPUT / OUTPUT	
Board Power supply	$6V_{DC}$
Board Power dissipation	$1.5W_{DC}$ @20°C
Data processing	Bad Pixel Replacement (BPR) & Non Uniformity Correction (NUC)
Video output	14 bits, CAMERALINK®
Frame rate	Up to 100 Hz full frame rate

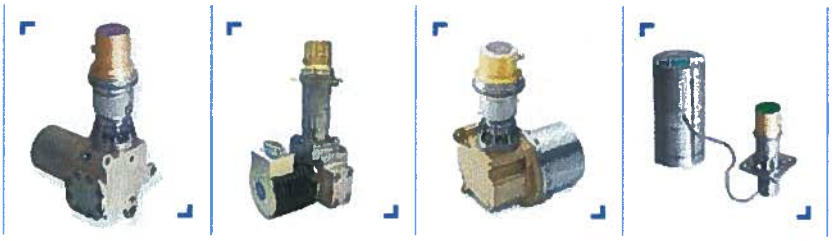
DAPHNIS-HD MW

SOFRADIR-EC

PRELIMINARY

DAPHNIS-HD MW

1280 x 720 - 10 µm pitch - MCT



TYPICAL PERFORMANCES

Mean NETD	< 20 mK (293K, 50% well fill, 100 Hz)
Array operability	> 99.8%
Non uniformity	< 2.5% RMS (σ/mean, 293 K uncorrected performance)

	RM2	RM3	RM4	Split cooler
FOV	f/2; f/4	f/2; f/4	f/2; f/4	f/2; f/4
Cooler power supply	34 V	24 V	30 V	8-12 V
Regulated input power (*)	< 3.5 W_{AC}	< 4.5 W_{AC}	< 5 W_{AC}	< 8 W_{AC}
Cooldown input power (*)	< 12 W_{AC}	< 14 W_{AC}	< 15 W_{AC}	< 20 W_{AC}
Cooldown time	5 min	4 min	3 min	5 min
Cooler dimensions (mm)	Ø 30.5 × L 82	Ø 46 × L 71	Ø 43.5 × L 78	≤ Ø 45 × L 119
IDCA height (optical axis, mm)	H < 123.5	H < 144	H < 127	H < 112
Weight	< 0.45 kg	< 0.57 kg	< 0.57 kg	< 1.2 kg
Operating temperatures	– 40°C / + 71°C	– 40°C / + 71°C	– 40°C / + 71°C	– 40°C / + 71°C
Will depend on mission profile	10 000 h	12 000 h	18 000 h	40 000 h

(*) W_{AC} = at cooler pins AC input - W_{DC} = at cooler C&CE DC input

OPTIONS

- Technical training and support
- Cooler driving electronics

APPLICATIONS

Technical characteristics described in this data sheet are for information only.
They are not contractual and may change without prior notice.

SOFRADIR EC, INC. 373 US Hwy 46W, Fairfield, NJ 07004 USA
Phone: 973-882-0211 Fax: 973-882-0997

SOFRADIR-EC
www.sofradir-ec.com

DAPHNIS-HD MW

PROIG - 5202 - Crédit photographie : © Dassault Aviation - K. Tokunaga - Avril 2014

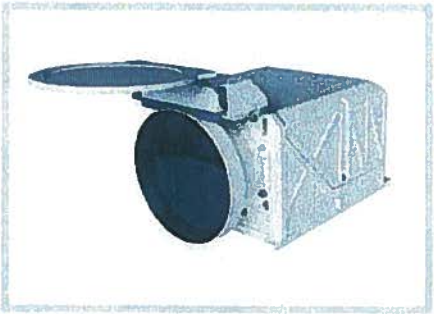
DALI
ZHEJIANG DALI TECHNOLOGY CO.,LTD
Professional Thermal Imaging Products Manufacturer
Sales & Support 86-571-88695866
Request A Quote - Email
Select Language

Home Products About Us Factory Tour Quality Control Contact Us Request A Quote

Home > Products > Fixed Thermal Imaging Camera > Cooled Long Distance Fixed Thermal Imaging Camera For CCTV Surveillance

All Products
- IR Thermal Imaging Camera (34)
- Night Vision Thermal Imaging Camera (24)
- Handheld Thermal Imaging Camera (12)
- Uncooled Infrared Detectors (4)
- Thermal Imaging Module (6)
- Industrial Thermal Imager (14)
- Fixed Thermal Imaging Camera (20)
- Remote Thermal Imaging Camera (7)
- Long Distance Security Cameras (18)
- Thermal Security Camera (24)
- CCTV Surveillance System (17)
- Firefighter Thermal Imaging Camera (3)
- Vehicle Thermal Imaging Camera (3)
- Gas Detection Camera (3)
- I'm Online Chat Now

Cooled Long Distance Fixed Thermal Imaging Camera For CCTV Surveillance



Large Image : Cooled Long Distance Fixed Thermal Imaging Camera For CCTV Surveillance

Product Details:

Place of Origin:	Zhejiang, China (Mainland)
Brand Name:	DALI
Certification:	CE
Model Number:	DLD-M600

Payment & Shipping Terms:

Minimum Order Quantity:	1
Packaging Details:	basis on incasement request
Delivery Time:	2-4 weeks
Payment Terms:	L/C,T/T
Supply Ability:	200 Unit/Units

Submit Quiry

Detailed Product Description

Cooled Long Distance Fixed Thermal Imaging Camera For CCTV Surveillance

Quick Detail:

- 600mm focal length, ultra long-range observation distance
- 15KM vehicle/30KM medium vessel security detection
- Triple FOV, meets the different requirement of detection ,recognition, identification
- FOV switch time <1S
- Digital Detail Enhancement(DDE)
- Multiple user defined auto mode , meets different targets observation require ment in different environment.
- RS422 remote control
- Rugged hou sing,compact structure,high protection encapsulation(IP67)

Applications:

Suitable for border, maritime, ports and islands where require day and night sec urity surveillance.

Technical specification:

Item		Specification	
Detector	Detector type	HgTeCd Cooled FPA detector	
	Array size/format	320×256	640×512
	Pixel pitch	30μm	15μm
Image characteristics	Field of view(FOV)	WFOV: 11°×8.8° MFOV: 2.2°×1.76° NFOV: 0.92°×0.73°	
	Focal length	50/250/600mm	
	Spatial resolution	WFOV:0.6mrad MFOV 0.12 mrad NFOV 0.05mrad	
	FOV switch time	≤1s	
	NETD	≤35mk@30℃,F4	
	Frame frequency	50Hz	
	Focus	Auto/Electrical manual focus	
	Spectral range	3.7~4.8μm	
Thermal operation	Starting time	<8min(In normal temperatu re 25 degrees)	
	Brightness/gain adj ustment	manual brightness/gain adjustment；auto brightness/gain adjustment	
	auto brightness/gain configuration adjustment	2 fix pattern,8 user defined setting pattern	
	Polarity reversal	Black hot/White hot	
	Zoom	2x	
	Noise reduction	Yes	
	DDE	Yes	
	Calibration	Automatic and manual calibration	
	Crosshair	Display/Hidden	
Power system	External power supply	24±3V DC	
	Power consumption	<14W(In normal temperature 25℃ normal work)	
Environment	Operating temperature	-40℃~ +55℃	
	Storage temperature	-45℃~+65℃	
	Encapsulation	IP67	
Physical	Weight	≤7Kg	

Contact Details

ZHEJIANG DALI TECHNOLOGY CO.,LTD
Contact Person: Mr. Steve
Tel:86-571-86695666
Fax:86-571-86695600

Send your inquiry directly to us

Please enter the inquiry details, such as product name, color, size, MOQ, FOB, etc.

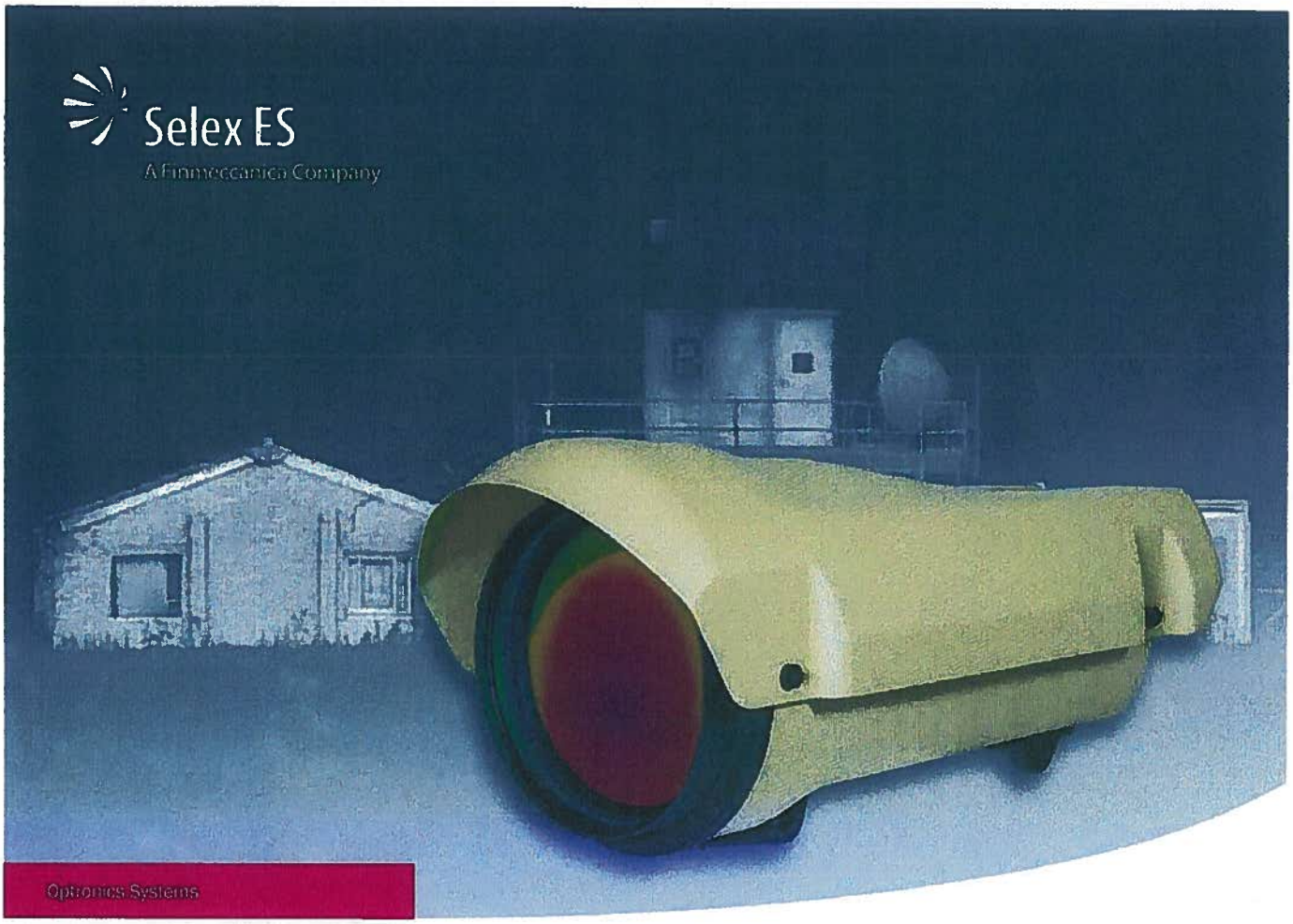
(0 / 3000)

Submit Quiryw

Other Products

- Long Distance Fixed Thermal Imaging Camera For Residential District , IP67
- Remote Control Fixed Thermal Imaging Camera , Online Dual FOV Monitoring System
- Waterproof CCTV Surveillance Fixed Thermal Imaging Camera With Night Vision
- Temperature Measurement Thermal Imaging Security Camera With 24/7 Monitoring
- Multi - interface Thermal Imaging Camera , Auto / Electri Infrared Thermal Imager
- Wifi Night Vision Thermographic Camera For Surveillance System

China good quality IR Thermal Imaging Camera supplier. Copyright © 2015 ir-thermalimagingcamera.com. All rights reserved.



HORIZON SD/HD
THERMAL IMAGING CAMERA

The Horizon Medium Wave Infra-Red (MWIR) thermal imaging camera employs the latest focal plane array technology to meet long-range surveillance and target identification requirements.

Utilising a modular Integrated Detector Cooler Assembly, the camera is fitted with either Standard Definition (SD) or High Definition (HD) detector arrays. This design allows for rapid assembly and ease of maintenance.

Horizon HD provides a wider Field of View (FoV) for greater Situational Awareness, whilst delivering a narrower IFoV for longer range target identification and engagement.
Horizon cameras have been specifically designed with very long life cooling engines of 50,000 hours. This increases reliability and reduces through-life costs.

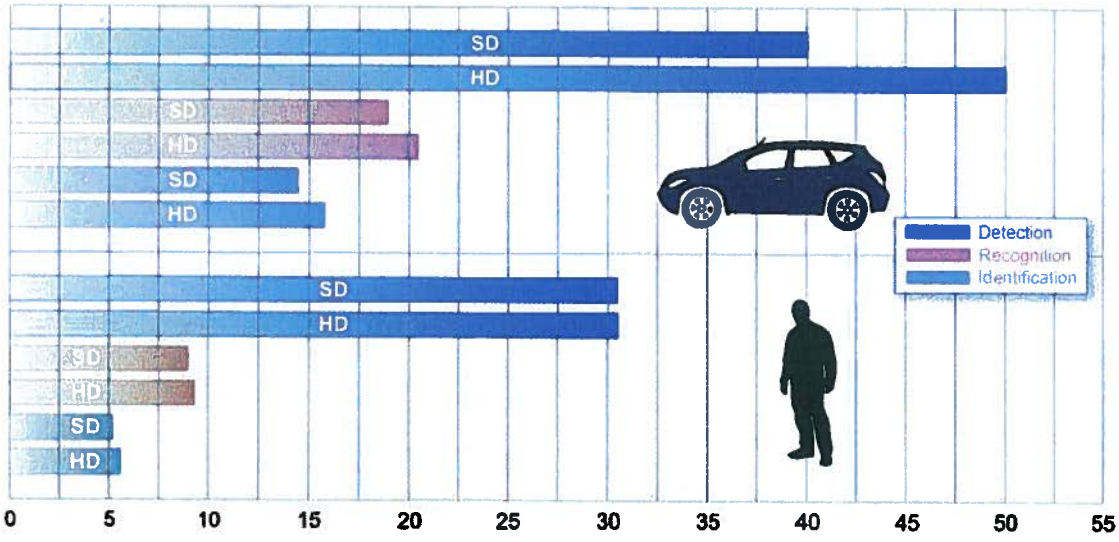
KEY BENEFITS

- Designed, developed and manufactured in the UK
- 'Dual Use' rated
- Very low through-life cost - 50,000 hours cooling engine life
- Ease of integration – video and communication over Ethernet
- Multiple digital and analogue video outputs
- ONVIF control and video interface
- Latest image processing
  - Turbulence mitigation
  - Image stabilisation
  - Local area contrast enhancement
- Ultra narrow field of view: 0.6°
- Qualified to operate from -40°C to +55°C
- Extended warranty options
- Finance options available
- Service provision contracts options

The Camera that Sees Further than You Can

TECHNICAL SPECIFICATION

Detector array resolution	640 x 512 (SD), 1280 x 720 (HD)
Detector pitch	16µm (SD), 12µm (HD)
FOV	7.3 x 5.9 degrees to 0.6 x 0.5 degrees (SD) 11.0 x 6.2 degrees to 0.9 x 0.5 degrees (HD)
Detector technology	CMT
Band	3.7µm - 4.95µm
F/Number	F/4
Focal length of continuous optical zoom	80-960mm
Comms	RS-422 Ethernet
Analogue video output	NTSC PAL (CCIR) HDTV 720p
Digital video output	HD-SDI Ethernet (H264, ONVIF)
Operating temperature	-40°C to 55°C
Weight	23kg
Size (L x W x H)	596.5mm x 299mm x 299mm
Power source	28VDC (18-32V)
Nominal power at steady state	<25W
Dynamic range enhancement	LACE Linear Edge enhancement
Image stabilisation	Yes
Turbulence mitigation	Yes
Auto focus	Yes
Cooling engine	Long life linear (50,000hrs)
Non-uniformity corrector	Built-in reference and quadratic NUC
E-Zoom	Interpolated (up to 8x)

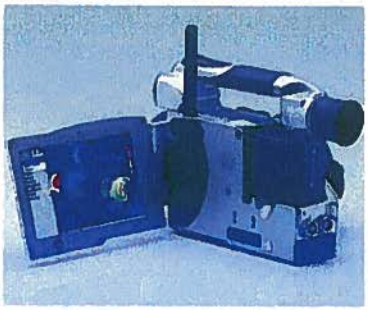


For more information please email infomarketing@selex-es.com
Selex ES Ltd - A Finmeccanica Company
Southampton First Avenue - Millbrook Industrial Estate - Southampton - Hampshire - SO15 0LG - Tel: +44 (0) 2380 702300
This publication is issued to provide outline information only and is supplied without liability for errors or omissions. No part of it may be reproduced or used unless authorised in writing.
We reserve the right to modify or revise all or part of this document without notice.
2014 © Copyright Selex ES Ltd

JENOPTIK

VarioCAM® HD Thermographic Infrared Cameras

Precision Thermography with up to 2048 × 1536 IR Pixels Resolution



High Definition Infrared made in Germany: Thermographic precision you can rely on.

If demanding thermal imaging is your assignment, the new VarioCAM® HD uncooled thermographic cameras will be your first choice solution.

VarioCAM® HD outputs crisp and most detailed radiometric images of **up to 2048 x 1536 pixel** spatial resolution enabled by Jenoptik's ***Resolution Enhancement technology*** and offers a thermal resolution of **50 mK NETD**. Operating at a frame rate of up to 30 Hz, the camera provides a **real-time** image resolution of **1024 x 768 pixel**.

VarioCAM® HD is the world's first thermography camera featuring a built-in **laser rangefinder** for optimal temperature correction, autofocus support and precise geo-referencing in connection with the **built-in GPS** module. For immediate image control the camera offers a robust and extra-large **1280x800 pixel 5.6" TFT display** and an tiltable viewfinder. Versatile industry-proof standard interface options, including wireless and GigE-Vision allow for easy remote imaging.

Matching a broad variety of thermal imaging applications, **a great choice of high quality infrared optics** is available – of course, also made in Germany, manufactured by Jenoptik.

Applications:

- Industrial and scientific research & development
- Predictive and preventive maintenance
- Building inspection

Sensor Systems

VarioCAM® HD Thermographic Infrared Cameras

Precision Thermography with up to 2048 × 1536 IR Pixel Resolution

Specifications

	VarioCAM® HD 1024 inspect	VarioCAM® HD 1024 research	
Detector type	Uncooled microbolometer (Focal Plane Array)		
Image resolution [pixel]	1024 × 768	2048 × 1536 (RE mode)	1024 × 768
Image rate (@ max. image resolution)	30 Hz	n.s. [2]	30 Hz
Subframe modes & frame rates (optional)	640 × 480 (60 fps) I 384 × 288 (120 fps) I 1024 × 96 (240 fps)		
Spectral range	7.5 µm ... 14 µm		
Temperature measurement range [1]	-40 °C ... +1,200 °C I High temperature option: up to 2,000 °C		
Thermal resolution [NETD]	≤ 50 mK		
Measurement accuracy	± 1.5 K or ± 1.5 %		
Dynamic range	16 bit		
Laser rangefinder	Accuracy: ± 1.5 mm I Range: 70 m I Wavelength: 635 nm (red) I Laser class: 2		
Focus	Laser rangefinder supported autofocus I Passive autofocus I Motorized manual focus		
Display	Extra-large 5.6" color TFT display I 1280 × 800 pixel resolution I Suitable for daylight operation		
Viewfinder	Tiltable LCoS color viewfinder display I 800 × 600 pixel resolution		
Geo-localization	Built-in GPS for geo-referencing		
Digital VIS camera	CMOS color camera I up to 8 Megapixel resolution for image and video recording		
Audio	Integrated microphone and loudspeaker for image annotations		
Image / video storage	SDHC memory card		
Interfaces for image transfer	GigE-Vision I DVI-D I C-Video I WLAN (option)		
Interfaces for camera control	GigE-Vision I RS-232 I Trigger I USB 2.0 I Bluetooth (option)		
Power supply	External: 12 VDC ... 24 VDC I Battery: standard Li-Ion video camera battery		
Operating temperature	-25 °C ... +55 °C (operational)		
Storing temperature	-40 °C ... +70 °C		
Humidity	Relative humidity 10% ... 95%, non-condensing		
Shock	Operational: 25G, IEC 68-2-29		
Vibration	Operational: 2G, IEC 68-2-6		
Protection class	IP54		
Dimensions (with standard 1.0/30 mm lens)	210 mm × 125 mm × 155 mm [L × W × H]		
Weight (with standard 1.0/30 mm lens)	1.7 kg		
Measurement functions (selection)	Multiple measurement spots & ROIs I Hot/cold spot detection I Isotherms I Profiles I Differences		
Automatic functions (selection)	Focus I Image I Level I Range I NUC I Lens recognition I Image optimization I Alarm sequence		
Correction functions	LDC™ - Laser rangefinder based Distance Correction I Emissivity (manual or material table) Transmissivity I Ambient temperature I Humidity (option)		
Available lenses (with IP54-proof bayonet mount)	Super-Wide-Angle: 1.0 / 7.5 mm Wide-Angle: 1.0 / 15 mm Standard: 1.0 / 30 mm Telephoto: 1.0 / 60 mm Super-Telephoto: 1.0 / 120 mm	HFOV × VFOV, and minimum focus distance:	98° × 82° 100 mm 60° × 47° 200 mm 32° × 24° 300 mm 16° × 12° 2,000 mm 8° × 6° 4,000 mm

[1]) Overall range available for measurement and visualization. Four discrete sensitivity levels are used.
[2]) Single frame acquisition mode only. Frame rate for RE image series not specified yet. Live image refresh rate: 30 Hz.

JENOPTIK

JENOPTIK I Defense & Civil Systems
ESW GmbH - Sensor Systems
Pruessingstrasse 41 I 07745 Jena I Germany
Phone +49 3641 65-3942 I Fax -3494
infraredtechnology.dcs@jenoptik.com
www.jenoptik.com/infraredtechnology

Sales North / South Americas
JENOPTIK Advanced Systems, LLC
16490 Innovation Drive I Jupiter FL 33478 I USA
Phone +1 561 881-7400 ext. 1230 I Fax +1 561 88-1947
jdi.sales@jenoptik-inc.com

It is our policy to constantly improve the design and specifications. Accordingly, the details represented herein cannot be regarded as final and binding.

025007-004-001-04-99-14-0913-en

SEARCH

PRODUCTS

HYPERSPECTRAL IMAGING CAMERAS

- >Hyper-Cam
- >Hyper-Cam Methane
- >Airborne Platform
- >Reveal D&I
- >Motorized Polarizer Module

INFRARED CAMERAS

- >TS-IR Thermal Scientific IR Camera
- >HD-IR 1280 High Definition IR Camera
- >FAST-IR Rapid IR Camera
- >HDR-IR High Dynamic Range IR Camera
- >MS-IR Multispectral IR Camera

FEATURED VIDEO

Telops Hyper-Cam in a Gimbal

The Telops Hyper-Cam integrated into a fully automated gyrostabilized gimbal mounted in front of an helicopter.

SEE ALL VIDEOS

EXPERT ADVICE

YOU WANT TO INNOVATE BY INTEGRATING INFRARED SYSTEM SOLUTION TO YOUR BUSINESS ?

Vincent Farley will respond to your inquiry about infrared camera and instrumentation.

CONTACT HIM

HDR-IR High Dynamic Range IR Camera

The HDR-IR high dynamic range infrared camera series includes high performance cameras which cover extended scene temperature ranges.

These cameras maximize camera sensitivity automatically for any static or dynamic scenes. They find the best exposure time according to the scene and allow to resolve targets up to 2500°C.

Key Benefits

- Ultra-high dyanmic range ensure observation of scene targets with extremely high contrast and acc
- Real-time radiometric or uniformity corrected images
- Patent black body free correction technique
- Thermal sensitivity allows to detect temperature différences as small as 20 mK

DETECTOR SPECIFICATIONS

Click on the product name to download the datasheet

Detector type	MCT	MCT	InSb	MCT	InSb
Spectral range	3 µm to 4.9 µm	7.7 µm to 11.8 µm	3 µm to 5 µm	3.7 µm to 4.8 µm	3 µm to
Spectral resolution	640 x 512 pixels	320 x 256 pixels	1280 x 1024 pixels	1280 x 1024 pixels	320 x 25
Detector Pitch	16 µm	30 µm	15 µm	15 µm	30 µ
Aperture size*	f/4	f/2	f/3	f/3	f/2.4
Sensor cooling	Rotary-stirling closed cycle	Rotary-stirling closed cycle	Rotary-stirling closed cycle	Split-stirling closed cycle	Split-stirlin cycl

*Other configurations available upon request

TYPICAL PERFORMANCES

Maximum full frame rate	115 Hz	300 Hz	105 Hz	50 Hz	15
Scene temperature range	Up to 2500°C				
Measurement accuracy	1 K or 1 % (°C) 2% (°C) with scene temperature <150°C				
NETD	20 mK	25 mK	22 mK	25 mK	25

ELECTRONIC SPECIFICATIONS

Exposure time	0.2 µs to full frame rate	0.5 µs to full frame rate	0.5 µs to full frame rate	16 µs to full frame rate	1 µs to ful rate