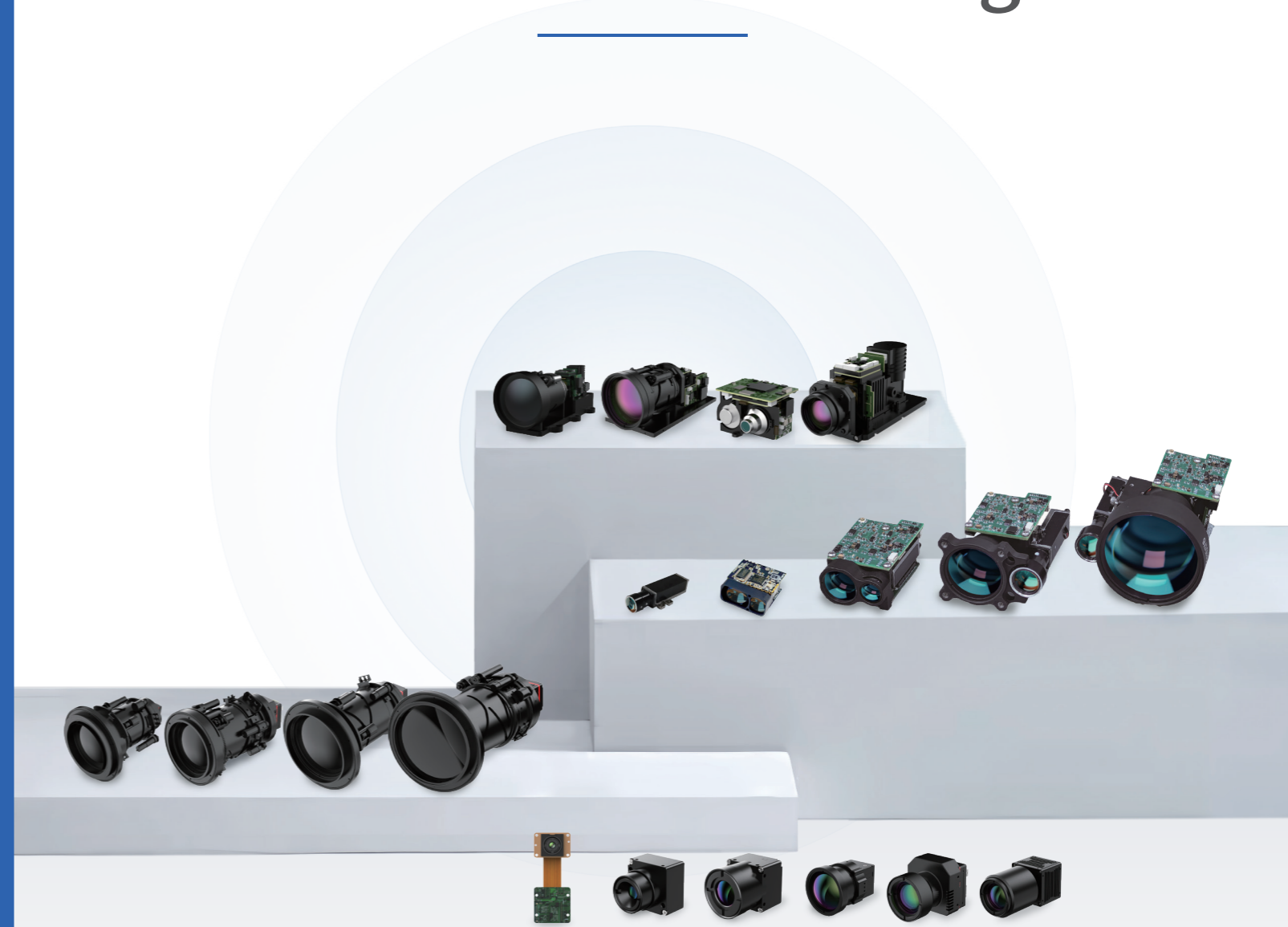




OEM Product Catalog

Raythink, sense difference



RayThink Technology Co., Ltd.

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Website



Facebook



LinkedIn

■ This manual is illustrative only. Technical specifications are subject to change without prior notice. Sample No.:O 2024-M001

RayThink Technology Co., Ltd.

RayThink Technology Co., Ltd. is specialized in innovation and development, manufacturing and marketing of intelligent photoelectric sensing technology. We are deeply engaged in the fields of infrared night vision imaging, thermography, gas imaging and laser sensing, providing professional infrared and laser sensing components, devices, software and smart industry solutions to our global customers. We have also successfully achieved self-development and large-scale production of intelligent multi-dimensional sensing photoelectric products in diverse forms applicable to various fields.

Being a solution provider to public sectors, industries, and commercial markets, we provide a rich portfolio of intelligent photoelectric sensing products, which are widely used in the smart industry, smart robots, gas detection imaging, fire fighting and safety, green energy, carbon neutrality, environmental protection, healthcare, etc. Bearing the mission of boosting intelligent photoelectric sensing technology progress, RayThink Technology integrates photoelectricity and smart technology to continuously create incremental value for customers and contribute to building a safe, energy-saving and environmentally friendly society.



Smart Industry



Intelligent Robots



Gas Detection



Fire Fighting and Safety



Green Energy



Carbon Neutral



ECO Protection



Healthcare



Raythink, sense difference

Innovative Development History

• **2009**

Raytron was officially registered

• **2015**

Released the first domestic 17 μ m 640 \times 512/14 μ m 1024 \times 768 uncooled infrared detector

• **2018**

Released the first domestic 12 μ m 1280 \times 1024 uncooled infrared detector

• **2019**

Listed in the STAR Market
SSE: 688002

• **2021**

Released the **world's first** 8 μ m 1920 \times 1080 uncooled infrared detector

• **2022**

Released the InGaAs SWIR detector, deeply engaged in LWIR, MWIR, and SWIR technologies

Released the first RG600 series OGI handheld camera

• **2023**

Released the T2SL MWIR and LWIR detectors

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Empower Various Industries



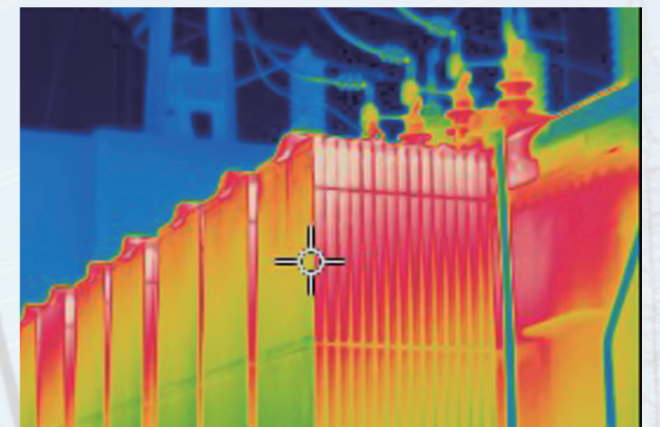
▶ UAV



▶ Security Monitoring



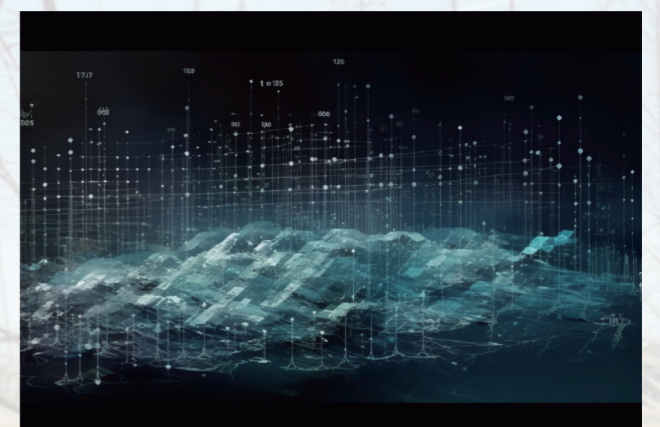
▶ Forest Fire Prevention



▶ Industrial Temperature Measurement



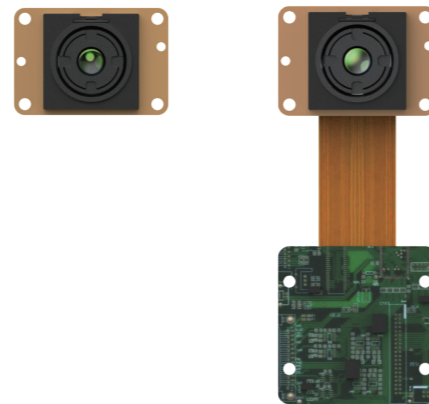
▶ Border and Coastal Surveillance



▶ Laser Rangefinding

Turing C256 Uncooled Infrared Module

Turing C256 uncooled infrared module, adopting an advanced 256×192 wafer detector, features compact dimensions, lightweight design, and low power consumption, meeting the SWaP³ design requirements. The split assembly makes it more flexible to use. It comes with multiple auxiliary development tools that support multiple ARM architecture SOC platforms, ensuring ease of use and integration. It also supports the simultaneous output of images and temperature values with a variety of lightweight infrared lenses and extension components. As the best choice for low-cost solutions, this product series can be used in many scenarios such as industry, power, security protection, and machine vision.



Product Highlights

Low-Cost Solution

- It adopts the 256×192 WLP detector and weighs only 3.5g with a 3.2mm lens.
- It supports multiple ARM architecture SOC platforms, capable of directly processing sensor data.



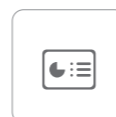
Easy Development

- It is compatible with various mainstream embedded SOC platforms and can optimize the image effect of ISP.
- It provides multiple SDK development interfaces for rapid secondary development.



Multiple Selections

- The FOV varies from 20° to 90° and the extension supports multiple protocols such as DVP, MIPI, and analog video.
- The split design is convenient for integration and development, supporting applications in multiple areas such as consumer, intelligence, security, and industrial sectors.



Specifications

Model	Turing C256
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	256×192
Pixel Pitch	12μm
Frame Rate	25Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C (≤40mK, optional)
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Automatic
Polarity	Black-hot/White-hot
Palette	Support multiple types
Reticle	Display/Blank/Move
Image Processing	digital filtering noise reduction, and digital detail enhancement
Mirror Image	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range	3.8V~5.2V
Power Consumption (Typical, @25°C, Without Extension)	≤0.35W
Interface	
Digital Video	CDS2/CDS3/LVCMOS
Serial Communication Interface	UART
Extension Components	Analog Video
Interface/Supporting	
Direct Drive Solution	Compatible with SOC platforms such as HIS13516, HIS13519, NT98528, AR9201, AR9341, and CV28M33
Temperature Measurement Characteristics	
Temperature Measurement Range	For temperature measurement series, -20°C~+550°C
Measurement Accuracy	For temperature measurement series, ±3°C or ±3% at ambient temperature of -20°C~+60°C
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	21×14.6mm
Weight (3.2mm, Without Extension Components)	≤3.5g
Lens	2mm, 3.2mm, 7mm, 10mm, and 13mm
Environment Adaptability	
Operating Temperature	-20°C~+60°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Product Certification	RoHS2.0

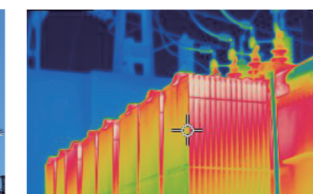
Applications



UAV



Security Monitoring



Industrial Temperature Measurement



Machine Vision

Turing F384 Uncooled Infrared Module (Temperature Measurement)

Turing F384 uncooled infrared module has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and high-accuracy temperature measurement algorithms. The products can be widely used in application scenarios such as security monitoring, industrial temperature measurement, forest fire prevention, and rail transportation.



Product Highlights

All Scenario and All Application

- All-scenario accurate temperature measurement across a FOV ranging from 10° to 62°.
- It supports both digital and network applications for all scenarios;



Stable, Precise, and Accurate

- Efficient thermal balance, providing high-accuracy temperature measurement of $\pm 2^{\circ}\text{C}$ across a wide measurement range of -20°C to 650°C for the module, with precise adjustment based on target distance.
- It can output a full array of temperature data to facilitate secondary temperature analysis.



Multiple Video Interfaces, Easy for Secondary Development

- It provides various video output interface options including interfaces, BT.601, and BT.1120, with extensions for SDI, USB, Cameralink, and HDMI interfaces.
- It provides multiple SDK, which are simple and easy to use, shortening the development cycle, improving efficiency, and reducing secondary development costs.



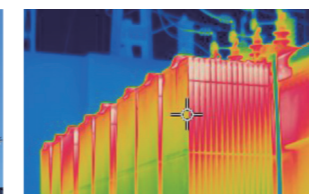
Specifications

Turing F384 Temperature Measurement	
Model	
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	384×288
Pixel Pitch	12μm
Frame Rate	50Hz
Spectral Band	8~14μm
NETD	≤40mK@25°C,F#1.0
Image Adjustment	
Palette	Support (20)
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	Non-uniformity correction/Brightness and contrast adjustment/Temporal filtering and spatial filtering noise reduction/Digital detail enhancementStyle adjustment
Mirror Image	Horizontal/Vertical/Diagonal
Temperature Measurement and Alarming	
Temperature Measurement Range	-20°C~+150°C, 0°C~+650°C
Measurement Accuracy	±2°C or ±2% @Ambient temperature of -20°C~+60°C
Fire Alarm	Support
Network Function	
Network Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, IGMP, SMTP, NTP, QoS, and other network protocols
Platform Access	Support Modbus TCP, MQTT protocols, ONVIF, GB28181, and SDK
Simultaneous Previewed Videos	Up to 8 channels
User Management	Up to 20 users, 3 levels: administrator, operator and user
Browser	Google, Firefox, Edge, etc
Intelligent Function	
Fire Warning	Support fire point detection
Intelligent Video Taking	Support
Intelligent Alarm	Support abnormality detection and linkage alarm for network cable disconnection, IP address conflict, memory error, and illegal access
Intelligent Detection	Support intelligent analysis of events such as regional intrusion, tripwire intrusions, and passenger and vehicle recognition
Alarm Linkage	Video taking/Image capture (thermal image capture supported)/Email/Linked PTZ/Alarm output
Lens Control	
Lens Type	Athermalized/Prime electric focus
Focus Mode	Manual/Automatic
Electric Focus	Support
Electric Zoom	Support
Digital	
Power Supply Range	5-24V DC (12V DC recommended)
Power Consumption	<1.5w (Typical, @25°C)
Analog Video	1-channel PAL system
Digital Video	LVCOS/BT.601/BT.1120
Communication Interface	RS-232/UART
Online	
Power Supply Range	12V DC ±10%
Power Consumption	<2.4w (Typical, @25°C)
Communication Interface	One RJ45 10M/100M adaptive Ethernet port, one RS-485, one UART
Alarm Interface	1-channel alarm input, 1-channel alarm output
Audio Interface	1-channel audio input, 1-channel audio output
Environment Adaptability	
Operating Temperature	-40°C~+70°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Product Certification	RoHS2.0

Applications



Security Monitoring



Industrial Temperature Measurement



Fire Rescue



Rail Transportation

Turing F384 Uncooled Infrared Module (Imaging)

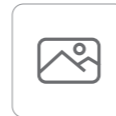
Turing F384 uncooled infrared module has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and technology of lens control, bringing a new experience for long-distance monitoring. The product can be widely used in application scenarios such as perimeter security, high-altitude observation, forest fire prevention, and water area monitoring.



Product Highlights

All-Weather, All-Scenario Ultra-Fast Focusing

- By optimizing the lens control technology and employing a series of continuous zoom lenses, this product achieves full focus in all temperature ranges.
- Deeply optimized automatic focusing algorithm to achieve ultra-fast focusing in 1 second in general and weak target scenarios.
- The image is clear throughout the process in application scenarios like target tracking and linkage magnification.



Providing Sharp Infrared Images

- The module upgrades the image algorithm to the new generation and optimizes the image for special scenarios such as forests, sea, sky, and rainy and foggy weather, providing customers with clear and sharp infrared images.



Providing Optimized Lens

- It supports athermalized prime lenses, prime electric focusing lenses, and continuous zoom lenses.
- It can realize electric focus, continuous zoom, automatic focus, and defocusing compensation functions, etc.



Multiple Interfaces, Easy for Secondary Development

- It provides interfaces, BT.601, BT.1120, and other video output interfaces.
- Expandable SDI, USB, Cameralink, and HDMI interfaces.
- It provides multiple SDK, which are simple and easy to use, shortening the development cycle, improving efficiency, and reducing secondary development costs.



Specifications

Model	Turing F384 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	384 × 288
Pixel Pitch	50Hz
Frame Rate	12μm
Spectral Band	8~14μm
NETD	≤40mK@25°C,F#1.0
Image Adjustment	
Palette	Support (20)
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	Non-uniformity correction/Brightness and contrast adjustment/Temporal filtering and spatial filtering noise reduction/Digital detail enhancement Style adjustment
Mirror Image	Horizontal/Vertical/Diagonal
Temperature Measurement and Alarming	
Temperature Measurement Range	Not support
Measurement Accuracy	Not support
Fire Alarm	Support
Network Function	
Network Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, IGMP, SMTP, NTP, QoS, and other network protocols
Platform Access	Support Modbus TCP, MQTT protocols, ONVIF, GB28181, and SDK
Simultaneous Previewed Videos	Up to 8 channels
User Management	Up to 20 users, 3 levels: administrator, operator and user
Browser	Google, Firefox, Edge, etc
Intelligent Function	
Fire Warning	Support fire point detection
Intelligent Video Taking	Support
Intelligent Alarm	Support abnormality detection and linkage alarm for network cable disconnection, IP address conflict, memory error, and illegal access
Intelligent Detection	Support intelligent analysis of events such as regional intrusion, tripwire intrusions, and passenger and vehicle recognition
Alarm Linkage	Video taking/Image capture (thermal image capture supported)/Email/Linked PTZ/Alarm output
Lens Control	
Lens Type	Athermalized/Prime electric focus
Focus Mode	Manual/Automatic
Electric Focus	Support
Electric Zoom	Support
Digital	
Power Supply Range	5-24V DC (12V DC recommended)
Power Consumption	<1.5w (Typical, @25°C)
Analog Video	1-channel PAL system
Digital Video	LVCOS/BT.601/BT.1120
Communication Interface	RS-232/UART
Online	
Power Supply Range	12V DC ±10%
Power Consumption	<2.0w (Typical, @25°C)
Communication Interface	One RJ45 10M/100M adaptive Ethernet port, one RS-485, one UART
Alarm Interface	1-channel alarm input, 1-channel alarm output
Audio Interface	1-channel audio input, 1-channel audio output
Environment Adaptability	
Operating Temperature	-40°C~+70°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Product Certification	RoHS2.0

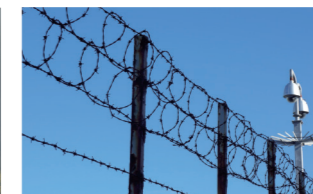
Applications



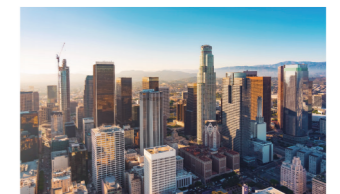
Border and Coastal Surveillance



Forest Fire Prevention



Security Monitoring



Urban High-Altitude Observation

Turing F640

Uncooled Infrared Module (Temperature Measurement)

Turing F640 uncooled infrared module has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and high-accuracy temperature measurement algorithms. The products can be widely used in application scenarios such as security monitoring, industrial temperature measurement, forest fire prevention, and rail transportation.



Product Highlights

All Scenario and All Application

- All-scenario accurate temperature measurement across a FOV ranging from 15° to 100°.
- It supports both digital and network applications for all scenarios.



Stable, Precise, and Accurate

- The module upgrades the image algorithm to the new generation and optimizes the image for special scenarios such as forests, sea, sky, and rainy and foggy weather, providing customers with clear and sharp infrared images.
- It can output a full array of temperature data to facilitate secondary temperature analysis.



Multiple Video Interfaces, Easy for Secondary Development

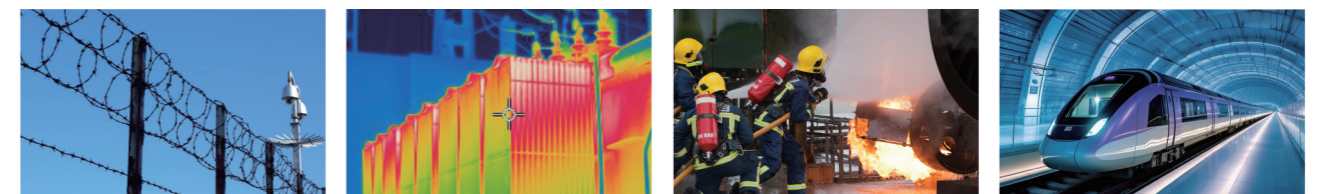
- It provides various video output interface options including interfaces, BT.601, and BT.1121, with extensions for SDI, USB, Cameralink, and HDMI interfaces.
- It provides multiple SDK, which are simple and easy to use, shortening the development cycle, improving efficiency, and reducing secondary development costs.



Specifications

Model	Turing F640 Temperature Measurement
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	640×512
Pixel Pitch	12μm
Frame Rate	25Hz
Spectral Band	8~14μm
NETD	≤40mK@25°C,F#1.0
Image Adjustment	
Palette	Support (20)
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	Non-uniformity correction/Brightness and contrast adjustment/Temporal filtering and spatial filtering noise reduction/Digital detail enhancementStyle adjustment
Mirror Image	Horizontal/Vertical/Diagonal
Temperature Measurement and Alarming	
Temperature Measurement Range	-20°C~+150°C, 0°C~+650°C
Measurement Accuracy	±2°C or ±2% @Ambient temperature of -20°C~+60°C
Fire Alarm	Support
Network Function	
Network Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, IGMP, SMTP, NTP, QoS, and other network protocols
Platform Access	Support Modbus TCP, MQTT protocols, ONVIF, GB28181, and SDK
Simultaneous Previewed Videos	Up to 8 channels
User Management	Up to 20 users, 3 levels: administrator, operator and user
Browser	Google, Firefox, Edge, etc
Intelligent Function	
Fire Warning	Support fire point detection
Intelligent Video Taking	Support
Intelligent Alarm	Support abnormality detection and linkage alarm for network cable disconnection, IP address conflict, memory error, and illegal access
Intelligent Detection	Support intelligent analysis of events such as regional intrusion, tripwire intrusions, and passenger and vehicle recognition
Alarm Linkage	Video taking/Image capture (thermal image capture supported)/Email/Linked PTZ/Alarm output
Lens Control	
Lens Type	Athermalized/Prime electric focus
Focus Mode	Manual/Automatic
Electric Focus	Support
Electric Zoom	Support
Digital	
Power Supply Range	5-24V DC (12V DC recommended)
Power Consumption	<1.5w (Typical, @25°C)
Analog Video	1-channel PAL system
Digital Video	LVCMOS/BT.601/BT.1120
Communication Interface	RS-232/UART
Online	
Power Supply Range	12V DC ±10%
Power Consumption	<2.4w (Typical, @25°C)
Communication Interface	One RJ45 10M/100M adaptive Ethernet port, one RS-485, one UART
Alarm Interface	1-channel alarm input, 1-channel alarm output
Audio Interface	1-channel audio input, 1-channel audio output
Environment Adaptability	
Operating Temperature	-40°C~+70°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Product Certification	RoHS2.0

Applications



Security Monitoring

Industrial Temperature Measurement

Fire Rescue

Rail Transportation

Turing F640 Uncooled Infrared Module (Imaging)

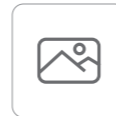
Turing F640 uncooled infrared module has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and technology of lens control, bringing a new experience for long-distance monitoring. The product can be widely used in application scenarios such as perimeter security, high-altitude observation, forest fire prevention, and water area monitoring.



Product Highlights

All-Weather, All-Scenario Ultra-Fast Focusing

- By optimizing the lens control technology and employing a series of continuous zoom lenses, this product achieves full focus in all temperature ranges.
- Automatic focusing algorithms are deeply optimized to achieve ultra-fast focusing in 1 second, improving the focusing speed in general and weak target scenarios. The image is clear throughout the process in application scenarios like target tracking and linkage magnification.



Providing Sharp Infrared Images

- The module upgrades the image algorithm to the new generation and optimizes the image for special scenarios such as forests, sea, sky, and rainy and foggy weather, providing customers with clear and sharp infrared images.



Providing Optimized Lens

- It supports athermalized prime lenses, prime electric focusing lenses, and continuous zoom lenses.
- It can realize electric focus, continuous zoom, automatic focus, and defocusing compensation functions, etc.



Multiple Video Interfaces, Easy for Secondary Development

- Support interfaces such as BT.601, BT.1120, SDI, USB, Cameralink, and HDMI.
- It provides multiple SDK, which are simple and easy to use, shortening the development cycle, improving efficiency, and reducing secondary development costs.



Specifications

Model	Turing F640 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	640×512
Pixel Pitch	12μm
Frame Rate	50Hz
Spectral Band	8~14μm
NETD	≤40mK@25°C,F#1.0
Image Adjustment	
Palette	Support (20)
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	Non-uniformity correction/Brightness and contrast adjustment/Temporal filtering and spatial filtering noise reduction/Digital detail enhancement/Style adjustment
Mirror Image	Horizontal/Vertical/Diagonal
Temperature Measurement and Alarming	
Temperature Measurement Range	Not support
Measurement Accuracy	Not support
Fire Alarm	Support
Network Function	
Network Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, IGMP, SMTP, NTP, QoS, and other network protocols
Platform Access	Support Modbus TCP, MQTT protocols, ONVIF, GB28181, and SDK
Simultaneous Previewed Videos	Up to 8 channels
User Management	Up to 20 users, 3 levels: administrator, operator and user
Browser	Google, Firefox, Edge, etc
Intelligent Function	
Fire Warning	Support fire point detection
Intelligent Video Taking	Support
Intelligent Alarm	Support abnormality detection and linkage alarm for network cable disconnection, IP address conflict, memory error, and illegal access
Intelligent Detection	Support intelligent analysis of events such as regional intrusion, tripwire intrusions, and passenger and vehicle recognition
Alarm Linkage	Video taking/Image capture (thermal image capture supported)/Email/Linked PTZ/Alarm output
Lens Control	
Lens Type	Athermalized/Prime electric focus
Focus Mode	Manual/Automatic
Electric Focus	Support
Electric Zoom	Support
Digital	
Power Supply Range	5-24V DC (12V DC recommended)
Power Consumption	<1.5w (Typical, @25°C)
Analog Video	1-channel PAL system
Digital Video	LVCOS/BT.601/BT.1120
Communication Interface	RS-232/UART
Online	
Power Supply Range	12V DC ±10%
Power Consumption	<2.0w (Typical, @25°C)
Communication Interface	One RJ45 10M/100M adaptive Ethernet port, one RS-485, one UART
Alarm Interface	1-channel alarm input, 1-channel alarm output
Audio Interface	1-channel audio input, 1-channel audio output
Environment Adaptability	
Operating Temperature	-40°C~+70°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Product Certification	RoHS2.0

Applications



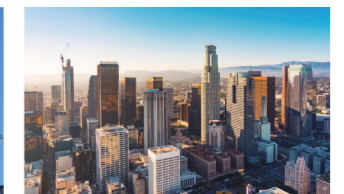
Border and Coastal Surveillance



Forest Fire Prevention



Security Monitoring



Urban High-Altitude Observation

Turing F1024

Uncooled Infrared Module

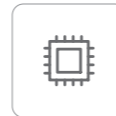
Turing F1024 uncooled infrared module has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and technology of lens control, bringing a new experience for long-distance monitoring. The product can be widely used in application scenarios such as perimeter security, high-altitude observation, forest fire prevention, and water area monitoring.



Product Highlights

Powerful Detector Performance

- It has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and technology of lens control, bringing a new experience for remote monitoring.
- The product can be widely used in application scenarios such as perimeter security, high-altitude observation, forest fire prevention, water area monitoring, and industrial temperature measurement..



Upgraded Image Algorithm

- The module has upgraded the image algorithm to the new generation and optimized it for special scenarios, such as forests, sea, sky, rainy, and foggy weather, providing customers with clear and sharp infrared images.



Providing Optimized Lens

- It supports athermalized prime lenses, prime electric focusing lenses, and continuous zoom lenses.
- It can realize electric focus, continuous zoom, automatic focus, and defocusing compensation functions, etc.



Multiple Interfaces

- It provides Ethernet, LVCMOS, BT.1120, and other video output interface options.
- Expandable SDI, USB, Cameralink, and HDMI interfaces.
- It provides an SDK, which is simple and easy to use, shortening the development cycle, improving efficiency, and reducing secondary development costs.



Specifications

Model	Turing F1024 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	1024×768
Pixel Pitch	12μm
Frame Rate	30Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C,F#1.0
Image Adjustment	
Palette	Support (20)
Digital Zoom	1.0~4.0× continuous zoom (step size: 0.1)
Brightness/Contrast Adjustment	Manual/Automatic 0/Automatic 1
Image Processing	Non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
Mirror Image	Horizontal/Vertical/Diagonal
Network Function	
Network Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, IGMP, SMTP, NTP, QoS, and other network protocols
Platform Access	ONVIF, GB28181, and SDK
Simultaneous Previewed Videos	Up to 20 channels
User Management	Up to 20 users, 3 levels: administrator, operator and user
Browser	Supports IE8+ and various languages
Intelligent Function	
Fire Point Detection	Support
Intelligent Video Taking	Support
Intelligent Alarm	Support abnormality detection and linkage alarm for network cable disconnection, IP address conflict, full memory, memory error, and illegal access
Intelligent Detection	Tripwire, border-crossing and regional intrusion detections, and other intelligent video analysis functions
Alarm Linkage	Video taking/Image capture/Email/Linked PTZ/Alarm output
Lens Control	
Lens Type	Athermalized/Prime electric focusing/Continuous zoom
Focus Mode	Manual/Automatic
Electric Focus	Support
Electric Zoom	Support
Digital	
Power Supply Range	5-24V DC (12V DC recommended)
Power Consumption	<2.4W (Typical, @25°C)
Digital Video	LVCMS/LVDS/BT.1120/SDI
Communication Interface	RS-232/RS-485
Weight	102.7g (without lens)
Dimensions	45mm×45mm
Online	
Power Supply Range	12V DC ±10%
Power Consumption	<3.0W (Typical, @25°C)
Communication Interface	One RJ45 10M/100M adaptive Ethernet port, one RS-485
Alarm Interface	1-channel alarm input, 1-channel alarm output
Audio Interface	1-channel audio input, 1-channel audio output
Weight	180.9g (without lens)
Dimensions	45mm×45mm
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Product Certification	RoHS2.0

Applications



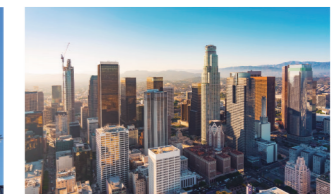
Border and Coastal Surveillance



Forest Fire Prevention



Security Monitoring



Urban High-Altitude Observation

Turing F1280

Uncooled Infrared Module

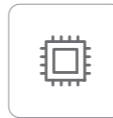
Turing F1280 uncooled infrared module has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and technology of lens control, bringing a new experience for long-distance monitoring. The product can be widely used in application scenarios such as perimeter security, high-altitude observation, forest fire prevention, and water area monitoring.



Product Highlights

Powerful Detector Performance

- It has a built-in high-sensitivity VOx infrared detector, providing a consistently high-performance kernel, ultimate image algorithms, and technology of lens control, bringing a new experience for remote monitoring.
- The product can be widely used in application scenarios such as perimeter security, high-altitude observation, forest fire prevention, water area monitoring, and industrial temperature measurement.



Upgraded Image Algorithm

- The module has upgraded the image algorithm to the new generation and optimized it for special scenarios, such as forests, sea, sky, rainy, and foggy weather, providing customers with clear and sharp infrared images.



Providing Optimized Lens

- It supports athermalized prime lenses, prime electric focusing lenses, and continuous zoom lenses.
- It can realize electric focus, continuous zoom, automatic focus, and defocusing compensation functions, etc.



Multiple Interfaces

- It provides Ethernet, LVC MOS, BT.1120, and other video output interface options.
- Expandable SDI, USB, Cameralink, and HDMI interfaces.
- It provides an SDK, which is simple and easy to use, shortening the development cycle, improving efficiency, and reducing secondary development costs.



Specifications

Model	Turing F1280 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx infrared detector
Resolution	1280×1024
Pixel Pitch	12μm
Detector Frame Rate	30Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C,F#1.0
Image Adjustment	
Palette	Support (20)
Digital Zoom	1.0~4.0× continuous zoom (step size: 0.1)
Brightness/Contrast Adjustment	Manual/Automatic 0/Automatic 1
Image Processing	Non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
Mirror Image	Horizontal/Vertical/Diagonal
Network Function	
Network Protocol	TCP/IP, UDP, ICMP, HTTP, HTTPS, FTP, DHCP, DNS, RTP, RTSP, RTCP, IGMP, SMTP, NTP, QoS, and other network protocols
Platform Access	ONVIF, GB28181, and SDK
Simultaneous Previewed Videos	Up to 20 channels
User Management	Up to 20 users, 3 levels: administrator, operator and user
Browser	Supports IE8+ and various languages
Intelligent Function	
Fire Point Detection	Support
Intelligent Video Taking	Support
Intelligent Alarm	Support abnormality detection and linkage alarm for network cable disconnection, IP address conflict, full memory, memory error, and illegal access
Intelligent Detection	Tripwire, border-crossing and regional intrusion detections, and other intelligent video analysis functions
Alarm Linkage	Video taking/Image capture/Email/Linked PTZ/Alarm output
Lens Control	
Lens Type	Athermalized/Prime electric focus/Continuous zoom
Focus Mode	Manual/Automatic
Electric Focus	Support
Electric Zoom	Support
Digital	
Power Supply Range	5-24V DC (12V DC recommended)
Power Consumption	<2.6W (Typical, @25°C)
Digital Video	LVC MOS/LVDS/BT.1120/SDI
Communication Interface	RS-232/RS-485
Weight	168±10g (without lens)
Dimensions	55mm×55mm
Online	
Power Supply Range	12V DC ±10%
Power Consumption	<3.8W (Typical, @25°C)
Communication Interface	One RJ45 10M/100M adaptive Ethernet port, one RS-485
Alarm Interface	1-channel alarm input, 1-channel alarm output
Audio Interface	1-channel audio input, 1-channel audio output
Weight	220±10g (without lens)
Dimensions	55mm×55mm
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Product Certification	RoHS2.0

Applications



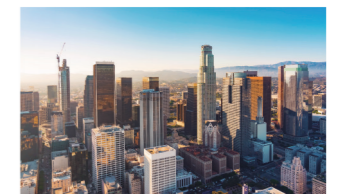
Border and Coastal Surveillance



Forest Fire Prevention



Security Monitoring

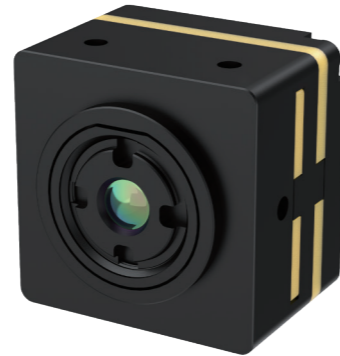


Urban High-Altitude Observation

Turing L256

Uncooled Infrared Module (Temperature Measurement)

Turing L256 uncooled infrared module is equipped with an advanced 256×192 wafer detector with a dimension of 18×18mm. Thanks to its integrated design, it redefines standards in weight, dimension and power consumption (SWaP³) in the OEM module industry. As the best choice for low-cost solutions, it can be used in many fields such as industry, power, security, and machine vision.



Product Highlights

Compatibility Design

- Its resolution is 256×192 and dimension is 18mm×18mm, which are consistent with those of the L384 mechanical interface for compatibility design.



Excellent Performance

- -20°C~+550°C wide measurement range to satisfy application requirements in different scenarios.



Multiple Selections

- The FOV is 20°~90° and the extension supports DVP/USB.



Specifications

Model	Turing L256 Temperature Measurement
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	256 × 192
Pixel Pitch	12μm
Frame Rate	25Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Automatic
Polarity	Black-hot/White-hot
Palette	It supports multiple types.
Reticle	Display/Blank/Move
Image Processing	Digital filtering noise reduction/Digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range	3.8~5.2V DC/1.8V/3.3V
Power Consumption (Typical, @25°C, Without Extension)	≤0.3W
Interface	
Digital Video	CDS3
Serial Communication Interface	UART
Extension Components	USB2.0
Temperature Measurement Characteristics	
Measurement Range	For temperature measurement series, -20°C~+550°C
Measurement Accuracy	For temperature measurement series, ±3°C or ±3% of reading at ambient temperature of -20°C~+60°C
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	18 × 18mm
Weight (3.2mm, Without Extension Components)	About 8.7g
Lens	2mm, 3.2mm, 7mm, 10mm, and 13mm
Environment Adaptability	
Operating Temperature	-20°C~60°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Product Certification	RoHS2.0

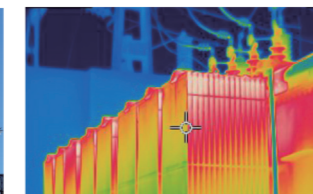
Applications



UAV



Security Monitoring



Industrial Temperature Measurement



Machine Vision

Turing L256

Uncooled Infrared Module (Imaging)

Turing L256 uncooled infrared module is equipped with an advanced 256×192 wafer detector with a dimension of 18×18mm. Thanks to its integrated design, it redefines standards in weight, dimension and power consumption (SWaP³) in the OEM module industry, providing excellent miniaturized solutions for consumer products.



Product Highlights

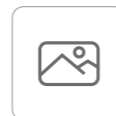
Compatibility Design

- Its resolution is 256×192 and dimension is 18mm×18mm, which are consistent with those of the L384 mechanical interface for compatibility design.



Excellent Performance

- 50Hz imaging to provide a smooth image experience.



Multiple Selections

- The FOV is 20°~90° and the extension supports multiple interfaces such as DVP/USB/Analog video.



Specifications

Model	Turing L256 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	256 × 192
Pixel Pitch	12μm
Frame Rate	50Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Automatic
Polarity	Black-hot/White-hot
Palette	It supports multiple types
Reticle	Display/Blank/Move
Image Processing	Digital filtering noise reduction/Digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range	3.8~5.2V DC/1.8V/3.3V
Power Consumption (Typical, @25°C, Without Extension)	≤0.35W
Interface	
Digital Video	LVCOS/BT.1120
Serial Communication Interface	UART
Extension Components	USB 2.0/Analog video
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	18 × 18mm
Weight (3.2mm, Without Extension Components)	About 8.7g
Lens	2mm, 3.2mm, 7mm, 10mm, and 13mm
Environment Adaptability	
Operating Temperature	-20°C~60°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Product Certification	RoHS2.0

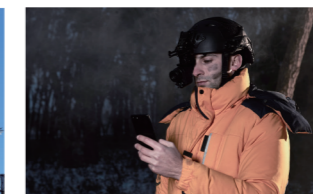
Applications



UAV



Security Monitoring



Head-mounted Night Vision



Machine Vision

Turing L384 Uncooled Infrared Module

Turing L384 uncooled infrared module has made further technical breakthroughs, redefining the new standard of weight, dimensions, and power consumption (SWaP³) in the infrared OEM module industry. It meets professional needs in the fields of routine inspection, security, search and rescue, and industrial monitoring and provides excellent miniaturized high-resolution solutions for consumer products.



Product Highlights

SWaP³ Design

- Its resolution is 384×288, dimension is 18×18mm, and weight is 3.5g, and it is a low-cost solution.



Excellent Performance

- It supports shutterless correction algorithm to provide a smooth and continuous user experience.



Multiple Selections

- Its FOV covers 10°~90°, and it supports multiple interfaces, such as MIPI/USB/BT.656/analog video.
- Equipped with leading programmable modules, it features flexible architecture, multiple functions, and high customizability.



Specifications

Model	Turing L384 Imaging	Turing L384 Temperature Measurement
Performance Characteristics		
Detector Type	Uncooled VOx infrared detector	
Resolution	384×288	
Pixel Pitch	12μm	
Frame Rate	50Hz	25Hz
Spectral Band	8~14μm	
NETD	≤50mK@25°C (≤40mK, optional)	
Image Adjustment		
Brightness/Contrast Adjustment	Manual/Automatic	
Polarity	Black-hot/White-hot	
Palette	Multiple types supported	
Reticle	Display/Blank/Move	
Image Processing	Shutterless Digital filter noise reduction/digital detail enhancement	TEC-less temperature control algorithm
Mirror Image	Horizontal/Vertical/Diagonal	
Power Supply		
Power Supply Range ⁽¹⁾	≤0.35W (Typical, @25°C, Without Extension)	
Power Consumption	≤0.35W (Typical, @25°C, Without Extension)	≤0.25W (Typical, @25°C, Without Extension)
Interface		
Digital Video	BT.656/BT.1120/LVCMOS	CDS2
Serial Communication Interface	UART	
Extension Components	USB2.0/Analog video	
Temperature Measurement Characteristics		
Temperature Measurement Range	/	For temperature measurement series, -20°C~+550°C (+650°C customizable)
Measurement Accuracy	/	For temperature measurement series, ±3°C or ±3% at ambient temperature of -20°C~+60°C (±2°C optional)
Measurement Tool	/	For temperature measurement series, secondary analysis of points, lines, and areas
Physical Characteristics		
Dimensions (Without Lens and Extension Components)	18×18mm	
Weight (Without Lens and Extension Components)	3.5g	
Lens	2.88mm/5.3mm/9mm/19mm	
Environment Adaptability		
Operating Temperature	-40°C~+80°C (-20°C~60°C measurement)	
Storage Temperature	-45°C~+85°C	
Humidity	5~95%, non-condensing	
Product Certification	RoHS2.0	

(1) Please refer to the product manual for power supply requirements

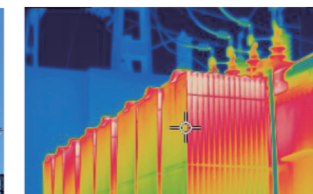
Applications



UAV



Security Monitoring



Industrial Temperature Measurement



Machine Vision

Turing L640

Uncooled Infrared Module

Turing L640 uncooled infrared module is specifically designed for applications where dimensions and power consumption are critical concerns. Featuring extreme compactness, lighter weight and lower power consumption, it supports multiple parallel communication and video output interfaces, and provides various lightweight infrared lenses. This series of imaging-type products can provide comprehensive infrared imaging solutions for a variety of photoelectric products including small handheld telescopes, helmet night vision devices, light-type unmanned aircraft systems, and driving assistance devices. Products for temperature measurement can be applied in many fields like industrial and electrical temperature measurement, security measurement, and machine vision.



Product Highlights

SWaP³ Design

- Its resolution is 640×512, dimension is 21×21mm, and weight is 8g. It meets the application requirements of infrared lightweight.



Excellent Performance

- It adopts high-quality image algorithms, providing multiple details regardless of smoke and darkness.
- With a measurement range spanning from -20°C to 650°C, this device offers a precise and rapid temperature assessment algorithm, providing accurate readings immediately upon powering on.



Multiple Selections

- FOV covers 10-130°.
- It supports multiple interfaces, such as MIPI, USB, BT.656, and analog video.
- Equipped with leading programmable modules, it features flexible architecture, multiple functions, and high customizability.



Specifications

Model	Turing L640 Imaging	Turing L640 Temperature Measurement
Performance Characteristics		
Detector Type	Uncooled VOx infrared detector	
Resolution	640×512	
Pixel Pitch	12μm	
Frame Rate	50Hz	25Hz
Spectral Band	8~14μm	
NETD	≤50mK@25°C (≤40mK, optional)	
Image Adjustment		
Brightness/Contrast Adjustment	Manual/Automatic/Linear	
Polarity	Black-hot/White-hot	
Palette	Support	
Reticle	Display/Blank/Move	
Image Processing	Support Shutterless Digital filtering noise reduction / digital detail enhancement / histogram stretching	TEC-less temperature control algorithm
Mirror Image	Horizontal/Vertical/Diagonal	
Power Supply		
Power Supply Range ⁽¹⁾	3.8-5.2VDC / 1.8V / 3.3V	
Power Consumption	0.4W (Typical, @25°C, Without Extension)	0.35W (Typical, @25°C, Without Extension)
Interface		
Digital Video	BT.656/BT.1120/LVCMOS/MIPI	CDS2/CDS3/LVCMOS/MIPI
Serial Communication Interface	UART/I2C (optional)	
Extension Components	USB2.0/Analog video	
Temperature Measurement Characteristics		
Temperature Measurement Range	/	For temperature measurement series, -20°C~+150°C, 0°C~+650°C
Measurement Accuracy	/	For temperature measurement series, ±3°C or ±3% at ambient temperature of -20°C~+60°C (±2°C optional)
Measurement Tool	/	Secondary analysis of points, lines, and areas
Physical Characteristics		
Dimensions (Without Lens and Extension Components)	21×21mm	
Weight (Without Lens and Extension Components)	8g	
Lens	4.1mm, 6.9mm, 9.1mm, 13mm, 25mm, 45mm	
Environment Adaptability		
Operating Temperature	40°C~+80°C (-20°C~60°C measurement)	
Storage Temperature	-45°C~+85°C	
Humidity	5~95%, non-condensing	
Product Certification	RoHS2.0	

(1)Please refer to the product manual for power supply requirements

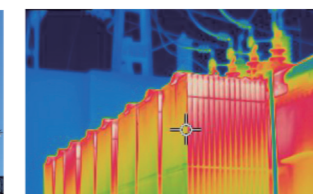
Applications



UAV



Security Monitoring



Industrial Temperature Measurement



Machine Vision

Turing L1280 Uncooled Infrared Module

Turing L1280 uncooled infrared module is a new generation of module components designed for expert users. The use of self-developed detectors has taken an important step forward in miniaturization and lightweighting, making us take a lead. With the advantage of large array imaging of 1280, the size is only 29mm×29mm, and the weight is only 24.5g. With a professional development team, it is the best choice for meeting the lightweight development needs.



Product Highlights

Industry Solutions of Minimum 1,280

- Equipped with a self-developed 12μm VOx uncooled infrared detector. Resolution is 1,280×1,024, size is 29×29, and weight is 24.5g.



Excellent Performance

- The mega-pixel resolution, combined with high-quality image algorithms, highlights details.
- Convenient for users to find targets and monitor details.



Rich Selection

- With multiple lenses optional, it can flexibly adapt to multiple scenarios.
- Dedicated support to help users choose the right lens for themselves, efficient and convenient.



Specifications

Model	Turing L1280 Imaging	Turing L1280 Temperature Measurement
Performance Characteristics		
Detector Type	Uncooled VOx infrared detector	
Resolution	1280×1024	
Pixel Pitch	12μm	
Frame Rate	30Hz	
Spectral Band	8~14μm	
NETD	≤50mK at 25°C,F#1.0	
Image Adjustment		
Brightness/Contrast Adjustment	Manual/Automatic/Linear	
Polarity	Black-hot/White-hot	
Palette	Support	
Image Processing	TEC-less temperature control algorithm, digital filtering noise reduction, and digital detail enhancement	
Mirror Image	Vertical/Horizontal/Diagonal	
Power Supply		
Power Supply Range	4.0~5.5VDC	
Power Consumption	0.9W (Typical, @25°C, without extension)	1W (Typical, @25°C, without extension)
Interface		
Digital Video	BT1120	CDS2
Control Interface	14Bit or 8Bit LVCMOS/MIPI	
Measurement Accuracy	UART (3.3V)	
Measurement Accuracy	USB3.0	
Temperature Measurement Characteristics		
Temperature Measurement Range	/	Temperature measurement series: -20°C~+150°C, 100°C~+650°C
Measurement Accuracy	/	Temperature measurement series: ±2°C or ±2% of reading (The greater shall prevail) @Ambient temperature of 15°C~35°C
Measurement Tool	/	Secondary analysis of points, lines, and areas
Physical Characteristics		
Dimensions (Without Lens and Extension Components)	29mm×29 mm×18.9mm	
Weight (Without Lens and Extension Components)	24.5g	
Lens	10mm,35mm,50mm,75mm	10mm,35mm,50mm
Environment Adaptability		
Operating Temperature	-40°C~+70°C	-20°C~+60°C measurement
Storage Temperature	-45°C~+85°C	
Humidity	5~95%, non-condensing	
Product Certification	RoHS2.0	

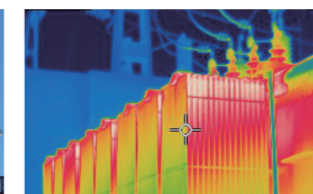
Applications



UAV



Security Monitoring



Industrial Temperature Measurement



Machine Vision

Turing A640

Uncooled Infrared Module (Temperature Measurement)

Turing A640 uncooled infrared module is equipped with a 640×512 ceramic-packaged infrared detector. It can not only provide clear images and accurate temperature data but also be equipped with multiple serialized lenses and various kinds of user extension components for customers to select. It can be applied in many fields such as industrial and electrical temperature measurement, security, and machine vision.



Product Highlights

Multiple Selections

- Provide 10+ athermalized lenses applicable to different distance apps.



Excellent Temperature Measurement Characteristics

- Measurement range of -20°C~+550°C; Provide precise and rapid temperature assessment capability.



Flexible Extension

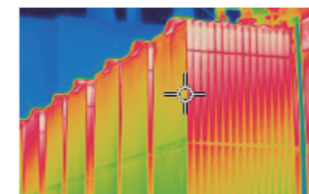
- Flexible USB, MIPI, DVP, LVDS, Camera Link and analog video output interfaces, Provide SDK to support secondary development.



Specifications

Model	Turing A640 Temperature Measurement
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	640 × 512
Pixel Pitch	12μm
Frame Rate	25Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C (≤40mK, optional)
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Automatic/Linear
Polarity	Black-hot/White-hot
Palette	Support
Reticle	Display/Blank/Move
Digital Zoom	1.0~4.0× continuous zoom (step size: 0.1)
Image Processing	Tecless
Mirroring	Scenario-based non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
Power Supply	
Power Supply Range (Typical)	4~5.5V DC
Power Consumption (Typical, @25°C, Without Expansion Board)	3.5~18V DC supported by user extension components
Power Protection	<0.7W
Overvoltage, undervoltage, and reverse connection supported by user extension components	
Interface	
Digital Video	BT.656/BT.1120/14Bit or 8Bit LVCMOS/LVDS
Analog Video	1-channel PAL system
Extension Components	MIPI/USB/Camera Link/Analog video/BT.656/LVDS
Serial Communication Interface	UART (3.3V)/RS232
Temperature Measurement Characteristics	
Measurement Range	For measurement series, -20°C~+150°C, +100°C~+550°C
Measurement Accuracy	For temperature measurement series, ±3°C or ±3% of reading at ambient temperature of -20°C~+60°C
Measurement Tool	Secondary analysis of points, lines, and areas
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	26mm × 26mm × 19.2mm
Weight (Without Lens and Extension Components)	20g ± 3g
Environment Adaptability	
Operating Temperature	-20°C~60°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Vibration	6.06g, random vibration, all axes
Impact	80g, 4ms, final peak sawtooth wave, three axes and six directions

Applications



Industrial Temperature Measurement



Electrical Temperature Measurement



UAV



Security Monitoring

Turing A640

Uncooled Infrared Module (Imaging)

Turing A640 uncooled infrared module is equipped with a 640×512 ceramic-packaged infrared detector. It can not only provide clear images but also be equipped with multiple serialized lenses and various kinds of user extension components for customers to select. Widely applied to fields of outdoor observation, integrated pods and driving assistance.



Product Highlights

Multiple Selections

- Provide 10+ athermalized lenses applicable to apps with different imaging distances.



Excellent Performance

- Support shutterless algorithm with a max frame rate of 50Hz to provide a smooth and continuous user experience.



Flexible Extension

- Provide multiple interface options such as USB, MIPI, DVP, LVDS, Camera Link and analog video, and optionally provide SDK to support secondary development.



Specifications

Model	Turing A640 Imaging
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	640×512
Pixel Pitch	12μm
Frame Rate	50Hz
Spectral Band	8~14μm
NETD	≤50mK@25°C (≤40mK, optional)
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Automatic/Linear
Polarity	Black-hot/White-hot
Palette	Support
Reticle	Display/Blank/Move
Digital Zoom	1.0~4.0× continuous zoom (step size: 0.1)
Image Processing	Shutterless
Mirroring	Scenario-based non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
Power Supply	
Power Supply Range (Typical)	4~5.5V DC
	3.5~18V DC supported by user extension components
Power Consumption (Typical, @25°C, Without Expansion Board)	<0.6W
Power Protection	Overvoltage, undervoltage, and reverse connection supported by user extension components
Interface	
Digital Video	BT.656/BT.1120/14Bit or 8Bit LVCMOS/LVDS
Analog Video	1-channel PAL system
Extension Components	MIPI/USB/Camera Link/Analog video/BT.656/LVDS
Serial Communication Interface	UART (3.3V)/RS232
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	26mm×26mm×19.2mm
Weight (Without Lens and Extension Components)	20g±3g
Environment Adaptability	
Operating Temperature	-40°C~+80°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Vibration	6.06g, random vibration, all axes
Impact	80g, 4ms, final peak sawtooth wave, three axes and six directions

Applications



UAV



Outdoor Observation



Security Monitoring



Driving Assistance

Turing A640H Uncooled Infrared Module

Turing A640H uncooled infrared module provides multiple serialized lenses and various kinds of user extension components, offering trustworthy solutions to high-reliability application scenarios. It is widely applied to fields of outdoor observation, integrated pods and driving assistance.



Product Highlights

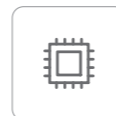
High Reliability

- Impact resistance reaching 1000g@0.3ms.



Excellent Performance

- Support shutterless algorithms, providing a smooth and continuous user experience.



Multiple Selections

- Provide 10+ athermalized lenses applicable to apps with different imaging distances.
- Provide multiple interface options such as USB, DVP, BT656, LVCMOS, and analog video.



Specifications

Model	Turing A640H
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	640×512
Pixel Pitch	12μm
Frame Rate	50Hz (60Hz, optional)
Spectral Band	8~14μm
NETD	≤40mK@25°C, F#1.0
Image Adjustment	
Polarity	Black-hot/White-hot
Palette	Support
Reticle	Display/Blank/Move
Edge Highlight	Support
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	Shutterless
Mirroring	Scenario-based non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range (Typical)	3.9~5V DC
	5~18V DC supported by user extension components
Power Consumption (Typical, @25°C, Without Expansion Board)	≤0.7W
Power Protection	Overvoltage, undervoltage, and reverse connection supported by user extension components
Interface	
Digital Video	BT.656/DVP/LVCMOS
Analog Video	1-channel PAL system
Extension Components	MIPI/USB/Analog video/BT.656/DVP
Serial Communication Interface	RS232/UART (3.3V)
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	26mm×26mm×19.8mm
Weight (Without Lens and Extension Components)	21g±1g
Environment Adaptability	
Operating Temperature	-40°C~+80°C
Storage Temperature	-45°C~+85°C
Humidity	5~95%, non-condensing
Vibration	6.06g, random vibration, all axes
Impact	1000g@0.3ms, optical axis direction

Applications



Outdoor Observation



Security Monitoring



UAV



Driving Assistance

Turing A1280H

Uncooled Infrared Module

Turing A1280H uncooled infrared module is developed based on excellent design to pursue high reliability and high performance in harsh environments. Along with advanced image algorithms, the product can steadily provide quality infrared images against harsh environments. It is equipped with rich lenses and multiple extension components to satisfy high-performance application requirements in industries such as electro-optical pods, vehicle-mounted applications, outdoor and security.



Product Highlights

Superior Performance

- It is equipped with a self-developed 12μm VOx uncooled infrared detector; its resolution is 1280 × 1024; NETD ≤ 40mK@25°C; F#1.0; it has high sensitivity.



High Reliability

- Impact resistance reaching 1000g@0.3ms.



Multiple Selections

- Support Camera Link/BT1120/HDMI/USB interfaces for output.
- Provide athermalized lenses with varied specifications and be suitable for auto-focus zoom lenses for various application scenarios.



Specifications

Model	Turing A1280H
Performance Characteristics	
Detector Type	Uncooled VOx Infrared Detector
Resolution	1280 × 1024
Pixel Pitch	12μm
Frame Rate	30Hz
Spectral Band	8~14μm
NETD	≤40mK@25°C, F#1.0
Thermal Time Constant	≤15ms
Image Adjustment	
Polarity	Black-hot/White-hot
Palette	Support
Image Correction	Automatic/Manual/Background correction is available
Reticle	Display/Blank (default)/Move (digital video)
Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
Image Processing	TEC-less temperature control algorithm Non-uniformity correction, digital filtering noise reduction, and digital detail enhancement
External Synchronization Function	Self-synchronization/Internal synchronization/External synchronization/Adaptive synchronization mode
Mirroring	Horizontal/Vertical/Diagonal
Brightness/Contrast Adjustment	Automatic/Manual brightness and contrast adjustment
Power Supply	
Power Supply Range	6-20V Typical supply 6V
Power Consumption (Typical, @25°C, Without Expansion Board)	Steady status ≤1W
Insulation Protection	The enclosure ground is insulated from signal and power ground with an insulation resistance of >10MΩ
Interface	
Digital Video	BT.1120/LVCMOS
Analog Video	None
Extension Components	Camera Link/BT.1120/HDMI/USB
Serial Communication Interface	RS422/RS232/UART
External Synchronization	LVTTL
Physical Characteristics	
Dimensions (Without Lens and Extension Components)	32mm × 32mm × 25.5mm
Weight (Without Lens and Extension Components)	43g ± 5g
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+70°C
Humidity	5~95%, non-condensing
Vibration	6.06g, random vibration, three axes, 5min/axis
Impact	1000g@0.3ms, optical axis direction

Applications



Outdoor Observation



Security Monitoring



UAV

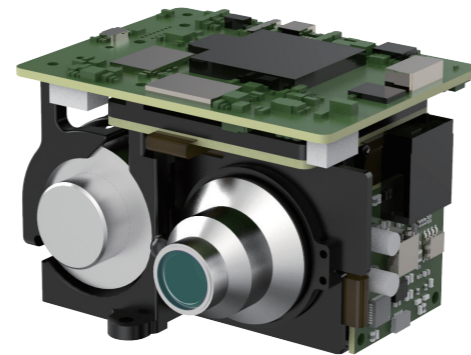


Driving Assistance

Photon H615

Medium-Wave HOT Cooled Infrared Module

Photon H615 medium-wave HOT cooled infrared module is provided with the high-performance T2SL cooled infrared FPA detector, is designed with SWaP, and is carried with the self-developed image processing algorithm. It works flexibly and reliably and plots quickly. It supports multiple digital video interfaces, is suitable for multiple focus and continuous zoom lenses, and is widely applied in the mini pod, handheld, border and sea defense and other scenarios. It provides an SDK, which is simple and easy to use, reducing secondary development costs.



Product Highlights

Industry-Leading SWaP Design

- The dimensions are as small as 72×61.7×76.7mm, weight is as low as 320g, and power consumption is as low as 5.5W, meeting the needs of miniaturized applications.



Delicate Images with High Sensitivity

- The NETD is as low as 20mK, meeting the requirements of long-distance observation of tiny targets.



Self-Developed Algorithm for Intelligent Imaging

- Equipped with a new self-developed image algorithm, it supports a wide dynamic range and adaptive integral time, providing the best imaging effect for different scenarios.



Fast Imaging for Timely Capture

- Featuring the new generation T2SL detector, it has a resolution of up to 640×512, a frame rate of up to 50Hz, and a cooling time as low as 2.5 minutes, meeting the requirements of large-range dynamic target capture.



High Reliability and Durability

- The mean time to failure (MTTF) is up to 20000h, and the operating temperature ranges from -40°C to +60°C, ensuring reliable performance in extreme environments such as polar regions or deserts.



Specifications

Model	Photon H615
Performance Characteristics	
Detector Type	T2SL Cooled Infrared FPA
Resolution	640×512
Frame rate	50Hz/30Hz
Pixel Pitch	15μm
Spectral Band	3.7~4.8μm
NETD	≤20mK@F4.0, 25°C/≤25mK@F5.5, 25°C
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Auto
Polarity	Black-hot/White-hot (white-hot by default)
Palette	Multiple types supported
Reticle	Display/Blank/Move
Image Processing	Non-uniformity correction, digital filter noise reduction, digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range (Typical)	12±0.5V DC
Power Consumption (Typical, @25°C)	Stable power consumption ≤ 5.5W, peak power consumption ≤ 11W
Interface	
Analog Video	PAL
Digital Video	Cameralink/SDI
Serial Communication Interface	RS422 (default baud rate: 115200)
Synchronization Mode	Internal synchronization (default)/External synchronization/Adaptive synchronization mode
Physical Characteristics	
Dimensions (Without lens)	72×61.7×76.7mm (±1)
Weight (Without lens)	≤320g
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+65°C
Random Vibration	4.16g
Shock	Final peak sawtooth wave, 30g, 11ms (18 times in 3 axes and 6 directions in total)
MTTF	≥20000h

Applications



Border Surveillance



Coastal Surveillance



UAV



Handheld Device

Photon L615

Long-Wave Cooled Infrared Module

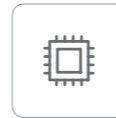
Photon L615 long-wave cooled infrared module is provided with the high-performance T2SL cooled infrared FPA detector and carried with the self-developed image processing algorithm. With better sand and dust penetrability, and anti-interference capacity of reflected light, it reaches a frame rate of up to 100Hz. It supports multiple digital video interfaces, is suitable for multiple fixed focus and continuous zoom lenses, and is widely applied in sighting distance enhancement, border and coastal surveillance, UAV detection, and other scenarios. It provides an SDK, which is simple and easy to use, reducing secondary development costs.



Product Highlights

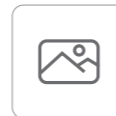
Delicate Images with High Sensitivity

- The NETD is as low as 25mK, meeting the requirements of long-distance observation of tiny targets.



Self-Developed Algorithm for Intelligent Imaging

- Equipped with a new self-developed image algorithm, it supports a wide dynamic range and adaptive integral time, providing the best imaging effect for different scenarios.



Wider Band and Precise Focus

- It covers bands from 7.7 to 10μm and supports various fixed and continuous zoom lenses, meeting the needs of multi-scenario applications.



Higher Frame Rate for Timely Capture

- The resolution is up to 640×512 and the frame rate is as high as 100Hz, meeting the requirements of large-range dynamic target capture.



Specifications

Model	Photon L615
Performance Characteristics	
Detector Type	T2SL Cooled Infrared FPA
DetectorType	640×512
Pixel Pitch	15μm
Spectral Band	7.7±0.2μm~10±0.5μm
NETD	≤25mK @25°C
Operability	≥99.5%
Cooling Time@25°C	7min
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Auto
Polarity	Black-hot/White-hot (white-hot by default)
Digital Zoom	1.0~8.0 continuous zoom (step size: 0.1)
Reticle	Display/Blank/Move
Image Processing	Non-uniformity correction, digital filter noise reduction, digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range (typical)	26~32V DC, typical voltage of 28V DC
Power Consumption (Typical, @25°C)	Stable power consumption ≤ 12W, peak power consumption ≤ 25W
Interface	
Analog Video	PAL
Digital Video	Camelink
Serial Communication Interface	RS422 (default baud rate: 115200)
Synchronization Mode	Internal synchronization (default)/External synchronization/Adaptive synchronization mode
Physical Characteristics	
Dimensions (Without lens)	121×75×79mm (±1)
Weight (Without lens)	≤870g
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+65°C
Random Vibration	-45°C~+65°C (≤5°C/min)
Shock	Final peak sawtooth wave, 40g, 11ms (18 times in 3 axes and 6 directions in total)
MTTF	≥10000h

Applications



Border Surveillance



Coastal Surveillance



Handheld Device



Vision Enhancement

Photon M615S

Medium-Wave Cooled Infrared Module

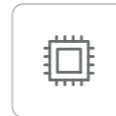
Photon M615S medium-wave cooled infrared module is provided with the high-performance HgCdTe cooled infrared FPA detector, and carried with the self-developed image processing algorithm. It reaches the frame rate of up to 100Hz, and has the NETD as low as 15mK. It supports multiple digital video interfaces, is suitable for multiple focus and continuous zoom lenses, and is widely applied in sighting distance enhancement, border and coastal surveillance and other scenarios. It provides an SDK, which is simple and easy to use, reducing secondary development costs.



Product Highlights

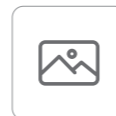
Delicate Images with High Sensitivity

- The NETD is as low as 15mK, meeting the requirements of long-distance observation of tiny targets.



Self-Developed Algorithm for Intelligent Imaging

- Equipped with a new self-developed image algorithm, it supports a wide dynamic range and adaptive integral time, providing the best imaging effect for different scenarios.



Higher Frame Rate for Timely Capture

- The resolution is up to 640×512 and the frame rate is as high as 100Hz, meeting the requirements of large-range dynamic target capture.



Specifications

Model	Photon M615S
Performance Indicators	
Detector Type	HgCdTe cooled infrared detector
Resolution	640×512
Pixel Pitch	15μm
Frame Rate	100Hz/50Hz/30Hz
F#	F2.0/F4.0
Spectral Band	3.7±0.2μm~4.8±0.2μm
NETD	≤15mK@25°C
Detector Defective Pixel Rate	≤0.5%
Cooling Time@25°C	≤7min
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Auto
Polarity	Black-hot/White-hot (white-hot by default)
Reticle	Display/Blank/Move
Digital Zoom	1.0~8.0 continuous zoom (step size: 0.1)
Image Processing	Non-uniformity correction, digital filter noise reduction, digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range	27~36V DC (with isolation), typical voltage of 28V DC
Power Consumption (Typical, @25°C)	Steady status ≤16W, peak ≤35W
Interface	
Analog Video	PAL
Digital Video	Cmaeralink/SDI
Serial Communication Interface	RS422 (default baud rate: 115200)
External Synchronization	Internal synchronization (default)/external synchronization/adaptive synchronization mode
Physical Characteristics	
Weight (g)	≤870 (with isolation)
Dimensions (mm)	144×75×81 (with isolation)
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+65°C
Temperature Shock	-45°C~+65°C (≤5°C/min)
Random Vibration	6.06g
Shock	Final peak sawtooth wave, 40g, 11ms (18 times in 3 axes and 6 directions in total)
MTTF	≥6000h
Storage Life	≥10 years

Applications



Border Surveillance



Coastal Surveillance



Handheld Device



Vision Enhancement

Photon M615L

Medium-Wave Cooled Infrared Module

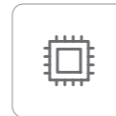
Photon M615L medium-wave cooled infrared module is provided with the high-performance HgCdTe cooled infrared FPA detector, and carried with the self-developed image processing algorithm. It reaches the frame rate of up to 100Hz, and has the NETD as low as 15mK. It supports multiple digital video interfaces, is suitable for multiple focus and continuous zoom lenses, and is widely applied in sighting distance enhancement, border and coastal surveillance and other scenarios. It provides an SDK, which is simple and easy to use, reducing secondary development costs.



Product Highlights

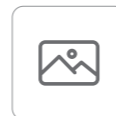
Delicate Images with High Sensitivity

- The NETD is as low as 15mK, meeting the requirements of long-distance observation of tiny targets.



Self-Developed Algorithm for Intelligent Imaging

- Equipped with a new self-developed image algorithm, it supports a wide dynamic range and adaptive integral time, providing the best imaging effect for different scenarios.



Higher Frame Rate for Timely Capture

- The resolution is up to 640×512 and the frame rate is as high as 100Hz, meeting the requirements of large-range dynamic target capture.



Specifications

Model	Photon M615L
Performance Indicators	
Detector Type	HgCdTe cooled infrared detector
Resolution	640×512
Frame Rate	100Hz/50Hz/30Hz
F#	F4.0/F5.5
Pixel Pitch	15μm
Spectral Band	3.7±0.2μm~4.8±0.2μm
NETD	≤15mK@25°C
Detector Defective Pixel Rate	≤0.5%
Cooling Time@25°C	≤7min
Image Adjustment	
Brightness/Contrast Adjustment	Manual/Auto
Polarity	Black-hot/White-hot (white-hot by default)
Reticle	Display/Blank/Move
Image Processing	Non-uniformity correction, digital filter noise reduction, digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Power Supply	
Power Supply Range (With isolation)	/
Power Supply Range (Without isolation)	11~13V DC (typical 12V)
Power Consumption (Typical, @25°C)	Stable power consumption ≤ 10W, peak power;consumption ≤ 25W
Interface	
Analog Video	PAL
Digital Video	Cmaeralink/SDI
Serial Communication Interface	RS422 (default baud rate: 115200)
External Synchronization	Internal synchronization (default)/external synchronization/adaptive synchronization mode
Physical Characteristics	
Weight (Without lens)	≤ 480g (without isolation)
Dimensions (Without lens)	120×88×57mm (±1) (without isolation)
Environment Adaptability	
Operating Temperature	-40°C~+60°C
Storage Temperature	-45°C~+65°C
Temperature Shock	-45°C~+65°C (≤5°C/min)
Random Vibration	4.2g
Shock	Final peak sawtooth wave, 40g, 11ms (18 times in 3 axes and 6 directions in total)
MTTF	≥8000h
Storage Life	≥10years

Applications



Border Surveillance



Coastal Surveillance



Handheld Device



Vision Enhancement

Photon C330B

Cooled VOCs Gas Detection Thermal Camera

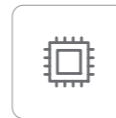
Photon C330B cooled VOCs gas detection thermal camera is exclusively designed to detect leakage of organic compounds (VOCs) around the wavelength of 3.3 μ m. It features low NETD and a high response rate, converting invisible gases into visible infrared images. It is widely used in fields such as the petrochemical industry, natural gas transportation, and environmental monitoring. The product series supports multiple video output interfaces, providing complete solutions for secondary development of products such as handheld products, UAVs, robots and PTZ.



Product Highlights

High sensitivity and excellent gas visualization capability

- New self-developed gas detection algorithms and NETD as low as 10mK to satisfy observation requirements of remote or micro leakage.



Rich products to satisfy application requirements in various scenarios

- Equipped with multiple detectors and lenses to satisfy application requirements in different scenarios.



Multiple output interfaces for convenient and efficient secondary development

- Support multiple output interfaces such as PAL, Camera Link, RS422, RS422 servo interface, and RJ45 100M Ethernet port to facilitate secondary development.



Specifications

Model	Photon C330B		
Performance Characteristics			
Detector Type	Cooled Infrared Detector		
Resolution	320×256		
Pixel Pitch	30 μ m		
F#	1.2		
Frame Rate	25Hz		
Spectral Band	3.2±0.2~3.4±0.2 μ m		
NETD	≤10mK@25°C		
Cooling Time	≤5min@25°C		
Types of Gases for Leakage Detection	Methane, ethane, propane, butane, pentane, hexane, heptane, octane, ethylene, propylene, isoprene, methanol, ethanol, butanone, benzene, toluene, xylene, ethylbenzene, etc.		
Optical Indicator			
Focal Length	23mm	50mm	25~75mm
FOV	23.5°×19°	10.97°×8.78°	25mm: 22.2°×17.7° 75mm: 7.3°×5.9°
Image Adjustment			
Mirroring	Horizontal/Vertical/Diagonal		
Palette	Support (8 palettes)		
Digital Zoom	1.0~4.0× continuous zoom (step size: 0.1)		
Image Processing	Non-uniformity correction/Pixel defect correction/Digital filtering noise reduction/Digital detail enhancement/Self-adaptive contrast adjustment		
Power Supply			
Power Interface	DC 24V (Camera Link)/POE IEEE 802.3AT (Ethernet port)		
Power Protection	Overvoltage, undervoltage, and reverse connection supported by user extension components (Camera Link)		
Power Consumption@25°C	Maximum Power Consumption	≤18W (Camera Link) /22W (Ethernet)	
	Stable Power Consumption	≤12W (Camera Link) /15W (Ethernet)	
Interface			
Electrical Interface	Camera Link, RS422, RS422 servo interface (Camera Link)		
	RJ45 100M Ethernet port (Ethernet port)		
Analog Video	PAL system (base) (not available for Ethernet port)		
Digital Video	Camera Link (not available for Ethernet port)		
Control	Software control via the upper computer (RS422; Baud rate: 115200)		
Physical Characteristics			
Weight	850g (Camera Link, without lens)		
	≤1.0Kg (Camera Link, including the shell & 23mm fixed-focus lens)		
	1.22Kg (Camera Link, including the shell & 50mm fixed-focus lens)		
	1.98Kg (Camera Link, including the shell & 25~75mm continuous zoom lens)		
	≤1.55Kg (Ethernet, including the shell & 50mm fixed-focus lens)		
Dimensions	≤2.04Kg (Ethernet, including the shell & 25~75mm continuous zoom lens)		
	135×76×87mm (Camera Link, without lens)		
	173×78×90mm (Ethernet, including the shell, base & 23mm fixed-focus lens)		
	187×78×90mm (Camera Link, including the shell & 50mm fixed-focus lens)		
	254.5×103×100mm (Camera Link, including the shell & 25~75mm continuous zoom lens)		
Environment Adaptability			
Operating Temperature	-20°C~+50°C		
Storage Temperature	-30°C~+60°C		

Applications



Gas Detection



Petrochemical Industry



Environmental Monitoring



Gas Transportation

Keen B615 Short-Wave Infrared Camera

Keen B615 short-wave infrared camera is a product designed for high-definition applications. Adopting a high-sensitivity InGaAs shortwave infrared detector with a pixel size of 15μm and an array size of 640×512, it features superior built-in image processing algorithms that deliver finer and higher-quality images. This product features low power consumption, low noise, and wide dynamic range. It supports multiple serial communication and video output interfaces. With various lightweight infrared lenses provided, it can be widely used in security monitoring, machine vision, semiconductor testing, laser detection, and other fields.



Product Highlights

Excellent Performance

- Equipped with a self-developed InGaAs shortwave infrared detector with a resolution of 640×512 and a pixel size of 15μm.
- Combines miniaturization, low power consumption, and lightweight design.
- Built-in TEC temperature control system ensures lower dark current.



All Weather Multi-Scenario Imaging

- The product showcases a robust capacity to permeate haze and smoke, enabling long detection distances even in adverse weather conditions.
- The InGaAs spectral band covers various commonly used laser wavelengths, making it widely applicable in the laser field.
- It features some thermal imaging characteristics, capable of detecting high-temperature radiation targets ($\geq 250^{\circ}\text{C}$).



Multiple Selections

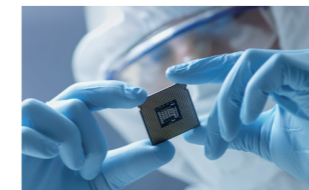
- It supports multiple video protocols, including BT.656, BT.1120, and LVDS.
- Expandable USB 3.0 and Cameralink user interfaces.
- It provides an SDK that is simple and easy to use, supporting secondary development.



Specifications

Model	Keen B615
Performance Characteristics	
Detector Type	InGaAs Short-Wave Infrared Detector
Resolution	640×512
Pixel Pitch	15μm
Detector Frame Rate	25/50Hz
Spectral Band	0.9~1.7μm
Quantum Efficiency	$\geq 70\%$
Operability	$\geq 99.8\%$
Average Pixel Dark Current	$\leq 60\text{fA}$ (@-0.2V image element bias@25°C)
Exposure Time Range	0.1~30ms
Integration type	Snapshot global shutter
Cooling Mode	TEC 1
Depth of Output Data	8bit/10bit/14bit
Image Adjustment	
Palette	Support
Digital Zoom	1.0~2.0× continuous zoom (step size: 0.1)
Image Processing	Non-uniformity correction/Brightness and contrast adjustment/Temporal filtering/Spatial filtering noise reduction/Digital detail enhancement
Mirroring	Horizontal/Vertical/Diagonal
Cross Cursor	Display/Blank/Move
Power and Interface	
Power Supply Range	5-24V DC (Recommended voltage of 12V DC)
Power Consumption	<1.5w (Typical, @25°C)
Digital Video	Cameralink/USB 3.0
Communication Interface	RS-232/RS-422/UART (3.3V)
Optical Interface	C-Mount
Physical Characteristics	
Weight	130±3g
Size	48×48×48.5mm
Environment Adaptability	
Operating Temperature	-40°C~+50°C
Storage Temperature	-45°C~+85°C
Humidity	5-95%, non-condensing
Vibration	6.06g, random vibration, 3 axes
Shock	80g,4ms,the terminal peak sawtooth pulse,3 axes and 6 directions
Product Certification	RoHS2.0

Applications



Semiconductor Testing



Photovoltaic Testing



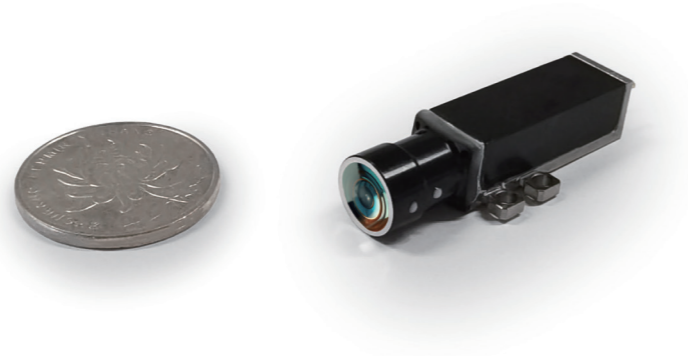
Laser Tracking



Security Monitoring

P1535 Series Eye-safe Laser

This product is an eye-safe erbium glass laser independently developed by RayThink. It is designed with features such as high output power, stable pulses, long service life, compact dimensions, light weight, and low power consumption. Its application range includes laser rangefinders, laser illumination products, LiDAR products, laser pointers, etc.



Product Highlights



Compact Dimensions



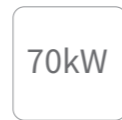
Low Consumption



Narrow Pulse Width



Eye-safe Band



High Peak Power



Working at Whole Temperature Range

Applications



Laser Rangefinding



Laser Irradiation



Laser Radar



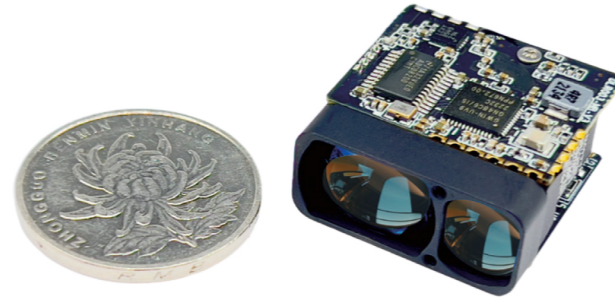
Laser Pointer

Specifications

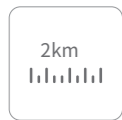
Model	P-1535-100u-C1	P-1535-200u-M2	P-1535-300u-M2	P-1535-400u-M2
Basic Features				
Peak Wavelength	1535±5 nm			
Mono-pulse Energy	~100 μJ	~200 μJ	~300 μJ	~400 μJ
Operating Frequency	1~10 Hz		1~5 Hz	
Pulse Width	4ns±1 ns		5ns±1 ns	
Beam Divergence Angle	0.7mrad ±0.15mrad	0.3mrad ±0.05mrad		
Electrical Characteristics				
Power Supply Mode	~ 2 V,12A,~1ms	~ 2 V,12A,~2.5ms	~ 2 V,12A,~3ms	~ 2 V,15A,~3ms
Power Consumption	<30mW/Hz	<60mW/Hz	<72mW/Hz	<90mW/Hz
Physical Characteristics				
Weight	≤9g	≤15g		≤27g
Environment Adaptability				
Operating Temperature	-40°C~+75 °C			-40°C~+65 °C
Storage Temperature	-45°C~+80°C			

SR Series Eye-Safe Laser Rangefinder Module

This product is based on 905nm semiconductor laser and adopts the SWaP design, with the smallest dimensions for its comparable performance. Applications of the device include handheld rangefinders, light UAVs, ranging scopes, etc. It has Uart (TTL_3.3V) data transmission interface and provides upper computer software and communication protocol command set to facilitate users' secondary development.



Product Highlights



Long Distance



Class 1 Eye-Safe



Light Weight



Compact Dimensions



Stable Performance



Multi-pulse Ranging

Applications



UAV Pods



Handheld Laser Rangefinder



Multi-spectral Telescope



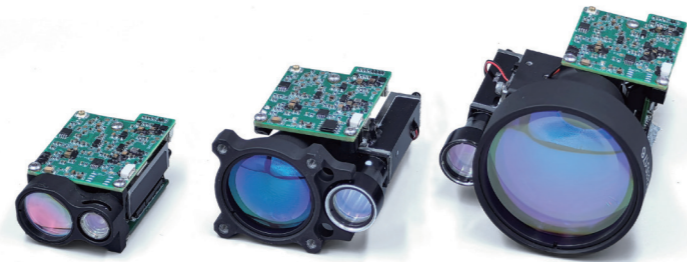
Rangefinder

Specifications

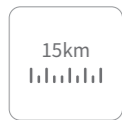
Model	SR600	SR1200	SR2000
Basic Features			
Laser Wavelength	905±5nm		
Eye-safe Class	Class 1(IEC 60825-1)		Class 3R(IEC 60825-1)
Laser Divergence Angle	~1×6mrad		~1×12mrad
Rangefinding Performance (for buildings)	5~600m	5~1200m	5~2000m
Measuring Accuracy	±1m		
Measuring Frequency	5~45m, 3Hz; >45m, 0.75~3Hz		
Emitting Aperture	Φ10×7.5mm		
Receiver Aperture	Φ15×10mm		
Detection Probability	≥98%		
False Alarm Rate	≤1%		
Electrical Characteristics			
Communication Interface	UART (TTL_3.3V)		
Baud Rate	9600/14400/19200/38400/57600/115200 (default)/128000/230400		
Power Supply Mode	DC3-5V		
Maximum Power Consumption	0.45w	0.9w	1.7w
Standby Power Consumption	≤1mw		
Physical Characteristics			
Weight	<25×26×13mm		
Dimensions	10±0.5g		
Shock	1200g, 1ms		
Vibration	5~50~5Hz, 1 octave/min, 2.5g		
Environment Adaptability			
Operating Temperature	-40~+60°C		
Storage Temperature	-40~+60°C		

LR Series Eye-Safe Laser Rangefinder Module

LR series eye-safe rangefinder module is self-developed by RayThink based on 1,535nm erbium glass laser. It is a Class1 product for human eye safety. The module is composed of a laser module, transmitting antenna, receiving antenna, circuit board, structure, etc. Characterized by light weight, compact dimensions, and stable performance, the product can be applied in photoelectric devices such as handheld devices, vehicle-mounted devices, and pods.



Product Highlights



15km



Class 1 Eye-Safe



Ultra-Light Weight



Ultra-Compact
Dimensions



Mono-pulse
Ranging



Super Stable

Ultra-Long Distance

Applications



UAV



High Performance Pods



Engineering Survey



Security PTZ

Specifications

Model	LR3000	LR6000	LR8000	LR12000	LR15000	
Basic Features						
Laser Wavelength	1535±5 nm					
Eye-safe Class	Class 1					
Laser Divergence Angle	~0.6mrad	~0.3mrad				
Maximum Range	Building	4200m	7100m	10000m	16000m	20000m
	Vehicle	3500m	6000m	8000m	12000m	15000m
	Human (0.5×1.7m)	2000m	3800m	4500m	5900m	6700m
	UAV (0.2×0.3m)	1000m	2000m	2600m	3200m	3700m
Minimum Range	20m			50m	100m	
Measuring Accuracy	±1m			±2m		
Measuring Frequency	1~10Hz (adjustable)				1~5Hz	
Emitting Aperture	Φ7.5mm	Φ12mm			Φ14mm	
Receiver Aperture	Φ16mm	Φ25mm		Φ40mm	Φ52mm	
Detection Probability	≥98%					
False Alarm Rate	≤1%					
Multi-Target Detection	Up to 3				Up to 5	
Range Resolution	20m	30m				
Electrical Characteristics						
Communication Interface	UART (TTL_3.3V)				RS422	
Baud Rate	9600/57600/115200 (default)					
Power Supply Mode	DC4.5-16V				DC 9~15V	
Power Consumption	≤2W				≤4W	
Peak Power Consumption	7w@12V				14W @ 12 V	
Standby Power Consumption	≤1mW (set Power_on to a lower value)				≤60mW	
Physical Characteristics						
Weight	32±1g	58±1g		127±2g	≤310g	
Dimensions	48×31×25mm	65×48×32mm		82×59×47mm	104×64×73mm	
Shock	1200g, 1ms	75g, 6ms				
Vibration	5~50~5Hz, 1 octave/min, 2.5g		0.01~0.04g2/Hz,20~2000Hz			
Environment Adaptability						
Operating Temperature	-40~+70°C					
Storage Temperature	-55~+75°C					

| Sales Network



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