



THERMAL IMAGING CAMERA PRODUCT BROCHURE

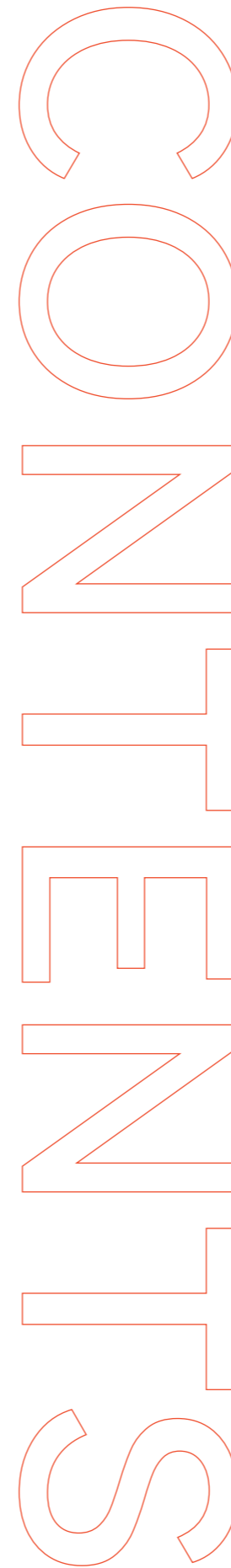


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VITAL OPTICS TECHNOLOGY CO.,LTD.



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CORPORATE CULTURE



Mission

TO EMPOWER HUMANS TO PERCEIVE THE WORLD IN MORE DIMENSIONS



Vision

BECOME A GLOBAL LEADER IN THE OPTOELECTRONICS FIELD



Our values

RESPECT, COLLABORATION, PERSEVERANCE, INNOVATION

COMPANY INTRODUCTION

VOT (Vital Optics Technology Co., LTD.) was listed on the Growth Enterprise Market of the Shenzhen Stock Exchange in July 2015, with the stock code: 300489.

VOT is a dedicated national high-tech enterprise specializing in optoelectronic technology, positioning us at the vanguard of innovation in this field. With comprehensive capabilities spanning the entire industry chain, we are capable of full-scale production from the growth of optoelectronic materials, chip design, key sensor manufacturing, to system integration. We offer a diverse range of products and solutions tailored to the needs of the global market: infrared materials and components, MEMS and detectors, customized core and lens assemblies, multifunctional thermal imaging imagers, tailored integrated optoelectronic systems, and solutions.

Our product applications span a diverse array of cutting-edge fields: Artificial Intelligence, semiconductor technology, advanced materials science, renewable energy solutions, medical diagnostics, sophisticated scientific instruments, large-scale research equipment, night vision for outdoor applications, industrial thermal measurement, machine vision technology, internet of Things devices, environmental monitoring systems, unmanned Aerial Vehicle payloads, Assisted driving technologies.

VOT's commitment to innovation and quality ensures that our products meet the rigorous demands of these industries, positioning us as a trusted partner for customers seeking advanced optoelectronic solutions.

TOTAL NUMBER OF EMPLOYEES: **2000+** RATIO OF R&D PERSONNEL **26%**



QUALIFICATIONS AND AWARDS

Led by a team of doctoral experts

Applied for **1164** patents

631 patents
Invention patents

498 patents
Utility model patents

35 patents
Design patents



- **ISO 9001:2015** Quality Management System Certificate
- **ISO 14001:2015** Environmental Management System Certificate
- **ISO 45001:2018** Occupational Health and Safety Management System Certificate

CORE TECHNOLOGY



- 01 All Industries**
Empower national security, smart cities, low-altitude economy and natural resources; drive industrial intelligent upgrading, unlock tech value in diverse scenarios, and co-build a new intelligent era.
- 02 Intelligent Platform**
With leading algorithms as core engine, build an evolvable, adaptable intelligent platform; continuously deliver innovation and supply "intelligent fuel" for industrial intelligent transformation.
- 03 Intelligent Perception**
Integrate diverse perception devices, cover infrared, laser, radio frequency and other multi-modal dimensions; enable comprehensive, real-time and accurate capture of the physical world, and serve as "acute nerves" for intelligent systems.
- 04 Independent Chips**
Leverage full-stack independent R&D (from MEMS sensors to Class I superlattice chips) to build Chinese chips' "core strength"; secure full hardware independence and create a safe, efficient perception fortress for the intelligent era.
- 05 Material Foundation**
Build on material innovation, break performance boundaries at the atomic level; lay a solid "performance foundation" for the entire industrial chain and endow tech innovation with differentiated competitiveness from the source.

SECURITY

Duo-vision Surveillance PTZ

Duo-vision Ball PTZ

Duo-vision Surveillance Speed Dome

Duo-vision Surveillance PTZ

Duo-vision Surveillance PTZ is built-in with a high-sensitivity infrared detector, featuring long detected distance and easy discovery of concealed targets. Unaffected by the daylight environment, it can obtain clear and accurate image information in environments such as no light or lowlight, and can realize 24-hour monitoring. There are features such as remote configuration function, simple operation, reliable and stable performance, and simple and convenient system access. Can be widely applied to airports, high-speed railway stations, ports, high-altitude observation and other places.



■ Product Advantages

- Economical and efficient, adopting 12μm thermal imaging detector
- High-performance chip, reliable and stable performance
- Optional multiple lenses to meet the diverse requirements
- Support remote network upgrade to maintenance
- Outputs in accordance with national standard protocols, and can be quickly connected to various background systems

■ Application Fields



Airports



Forest fire prevention



Dock



Observation deck

Product Parameters

Thermal Imaging	VOT-M3SP	VOT-M6SP	VOT-M3DP	VOT-M6DP
Detector type	VOx			
Detector resolution	384x288	640x512	384x288	640x512
Wavelength	8~14μm			
Pixel pitch	12μm			
NETD	≤40mK			
Focal length	50/75mm,50/75/100mm,25-75/25-100/30-150/25-225mm			
Focusing	Free focus, motorized focus, continuous zoom			
Frame rate	≤60Hz			
Optics	VOT-M3SP	VOT-M6SP	VOT-M3DP	VOT-M6DP
Sensor type	/	/	1/2.8"CMOS	
Resolution	/	/	2560x1440	
Focal length	/	/	5.5~180mm, 33x optical zoom	
Backlight compensation	/	/	Support, customizable area	
Exposure mode	/	/	Auto exposure / aperture priority / shutter priority / manual exposure	
Focusing mode	/	/	Support	
Day and night conversion mode	/	/	Auto / manual / timing / alarm trigger	
Pan-Tilt		System Functions		
Horizontal	360°, 1°~7°/s Speed optional	Image recording	Photo / video recording	
Vertical	-20°~90°, 1°~5°/s Speed optional	Networking function	Yes	
Preset points	>80positions	Sampling method	Real-time image	
Preset position accuracy	±0.5°	Display mode	Real-time network	
Cruise scan	Support	Status indication	Acousto-optic alarm, real-time display, more intuitive and intelligent	
Communication protocol	Pelco-D/P Optional	Physical Parameters		
Pan-tilt speed	Adaptive	Operating temperature	-30°C~+60°C	
Communication baud rate	2400/4800/9600/19200可选	Storage temperature	-40°C~+70°C	
Interfaces		Encapsulation	IP65	
Com port	RS-485			
Alarm input	one way			
Alarm output	one way			

Duo-vision Surveillance PTZ

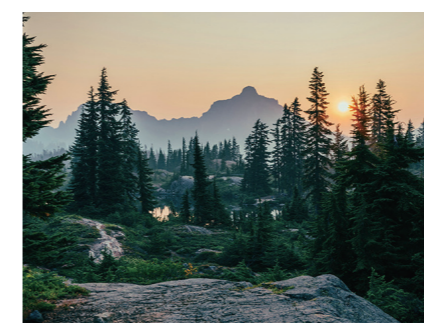
The Duo-vision Surveillance PTZ not only monitors and observe the target during the day, but also detect and identify the target in a completely dark environment. It is suitable for forest fire prevention, scenic area monitoring, environmental protection monitoring, oil field and petrochemical monitoring, high-altitude lookout monitoring and sea area dynamic monitoring.



Product Features

- Visible light and infrared light dual-channel imaging technology
- 1080P High-definition video, 2-megapixel high-definition camera core
- Optional continuous zoom lens with different focal lengths to meet the actual application requirements
- Optional uncooled/cooled camera core to meet the requirements of different target recognition distance.
- Fog permeability, adaptable to operation in bad weather
- Thermal imaging resolution 640x512pixels
- 360° continuous rotation, support cruise, line scanning, preset position, watchman, etc.
- The whole machine adopts strict reinforcement treatment, which can effectively prevent dust, rain, vibration and shock.
- Encapsulation level up to IP66

Fields of application



Forest Fire Prevention



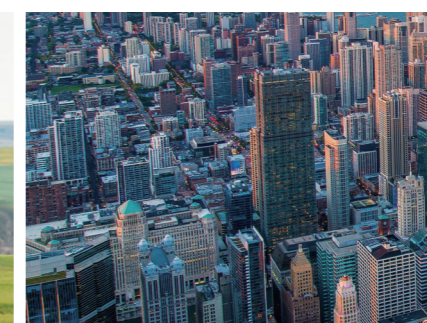
Scenic Area Monitoring



Environmental Protection



Oilfield and Petrochemical



High-altitude Observation



Sea Area Dynamics

Product Parameters

Thermal Imaging	VOT-M6DP-V			Medium Wave Cooled CTIM-DV6230
Detector Type	Uncooled Vanadium Oxide Detector			MCT
Resolution	640×512	640×512	640×512	640×512
Infrared Lens				
Thermal Imaging Lens	50mm F1.0	75mm F1.0	100mm F1.0	17~230mm
Focusing method	Motorized focusing	Motorized focusing	Motorized focusing	Continuous zoom
Visible Light				
Sensor Type	1/1.8 CMOS			1/1.28 CMOS
Resolution	1920×1080	1920×1080	1920×1080	1920×1080
Focal length	F:6.4-160mm, 25x optical zoom, Digital zoom 16x	F:6.4-160mm, 25x optical zoom, Digital zoom 16x	F:6.5-247mm, 38x optical zoom, Digital zoom 16x	F:7-532mm, 76x optical zoom, Digital zoom 16x
Aperture	Automatic/Manual Maximum Aperture: F1.5~F3.4	Automatic/Manual Maximum Aperture: F1.5~F3.4	Automatic/Manual Maximum Aperture: F1.5~F4.8	Automatic/Manual Maximum Aperture: F1.8~F7.6
Horizontal Field of View	62°~3.5° (Wideangle - Telephoto)	62°~3.5° (Wideangle - Telephoto)	64.8°~1.8° (Wideangle - Telephoto)	62°~0.6° (Wideangle - Telephoto)
Pan-Tilt				
Rotation speed	horizontal 0.01°~60°/S	Tilt 0.01°~30°/S	horizontal 0.01°~30°/S	Tilt 0.01°~15°/S
Rotation angle	horizontal 0°~360° Continuous Rotation Tilt -75°~40°		horizontal 0°~360° Continuous Rotation Tilt ±45°	
Preset position	Supports preset bit function, 200 preset bits can be set (range 1-80, 131-250)			
Positioning accuracy	±0.1°			
Watchdog function	1 preset position or 1 auto cruise route or 1 auto scan route can be set.			
Cruise Scan	Support			
Communication protocol	Pelco-D			
Installation	Countertop Mount			
Interface				
Network interface	10M/100M Ethernet interface (RJ-45)			
RS-485 interface	1 way			
Power interface	1 way			
Power Supply				
Power supply method	DC 48V			
Physical Parameters				
Working Temperature	-30°C~+60°C			
Encapsulation	IP65			
Weight	Approx 25kg	Approx 25kg	Approx 35kg	Approx 41kg
Dimension	525×366×533	525×366×533	525×366×605	600×420×660

Duo-vision Ball PTZ

The Duo-vision Ball PTZ integrates both visible light and thermal imaging technologies. It can observe targets in the daytime, and can also detect targets in a dark environment. It is suitable for industries such as emergency command, forest public security patrol, mobile command and observation of special vehicles, emergency search and rescue, industrial temperature measurement, maritime shipborne monitoring and other fields.



VOT-M6DC

Functional features

- Integrated structural design, encapsulation up to IP65
- 360-degree continuous rotation, supporting cruise, line scan, preset position, guard position, etc.
- Resolution up to 1080P
- Supports 3D positioning function, which can accurately position and monitor the selected picture
- Thermal imaging resolution 384×288/640×512
- Small-sized and lightweight design, weight ≤ 2.5KG
- Fixed with aluminum mounting flange
- High-definition video, 2 million pixels high-definition camera core with 10x optical zoom
- 9 - 36V wide voltage module
- Supports access to the camera through the national standard platform

Application fields



Emergency Command



Firefighting Safety



Forest Fire Prevention



Power Grid



Road Administration



Railway

■ Specification

Pan-Tilt	
Horizontal rotation range	360° continuous rotation
Vertical rotation range	-30°~90°
Preset position	255 preset positions
Cruise	4 cruise trajectories
Line scan	Support
Guard position	Support

Visible Light	
Sensor	1/2.8" high-performance low-illumination CMOS sensor
Resolution	1080P (1920*1080 25/30 frames per second)
Optical zoom	x10
Focal length	F=4.9~47mm
Aperture	F2.36~F2.4
Viewing angle	Wide viewing angle: 67.6°x54.8°, Far viewing angle: 7.15°x5.8°
Illumination	Condition: F1.6 (W) , 50IRE, 0.05 lux (1/30s)IR-CUTon, 0.005 lux (1/4s)IR-CUToff
Wide dynamic	Digital wide dynamic
Day and night switching mode	ICR filter switching

Thermal Imaging	
Resolution	640x512-12μm
Field of view	(H) 22.85°x(V)18.37° /19mm
Wavelength	8~14μm

Network Transmission	
Compression standard	H.264/H.265
Bit rate	512Kbps~4Mbps
Bit stream	Support dual-stream, main stream (1080P; 960P; 720P), sub-stream (D1; VGA; CIF)
Protocol	ONVIF protocol, national standard GB28181, support to provide the underlying layer to assist in development

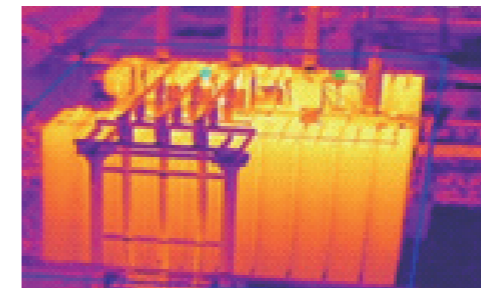
Others	
Encapsulation	IP65
Operating temperature	-30°C~60°C/0~95% (no condensation)
Size	Φ118x221.1mm
Weight	2.3kg/6kg with safety box packaging

Duo-vision Surveillance Speed Dome

Thermal Imaging + Visible Light

Thermal: resolution 640x512 with 35mm lens

Visible light: 2 million pixels and 38x



■ Functional Features

- Integrated network camera core
- 8-inch full-metal housing
- Precision electric drive
- Support ONVIF standard
- High-speed pan-tilt
- 8 infrared lamps with constant current drive
- Life up to 30,000 hours
- Support lightning protection, surge protection, and spike protection functions, with IP66 protection level
- 220 preset positions, 8 cruise scans and each can add 32 preset points
- 4 pattern scans with a recording time > 10 minutes, support 2-point line scan
- Support the guard function, and the preset point cruise scan can stay in the idle state
- Automatically call after a specified time (including entering the idle state after power-on)
- Support proportional zoom, and the rotation speed can be automatically adjusted according to the lens zoom multiple
- Support ONVIF 2.4, RTSP, TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, PPPoE, NTP, UPnP protocols

■ Application Fields



Power Grid



Forest Fire Prevention



Dock



Intelligent Transportation

■ Product Parameters

Pan-Tilt	
Horizontal Rotation Range	Continuous 360° Rotation
Vertical Rotation Range	0°~90°
Preset Position	220 Preset Positions
Cruise	Support 8 Cruise Trajectories
Line Scan	Support
Guard Position	Support

Visible Light	
Sensor	1/1.8 Progressive Scan CMOS
Resolution	1920×1080P,25fps/30fps
Optical Zoom	×38
Focal Length	F=6.5~247mm
Aperture	F1.5~F4.8
Horizontal Field of View	64.8°~1.8° (Wideangle - Telephoto)
Minimum Illumination	Color: 0.0005Lux @ (F1.5,AGC ON) Black and White: 0.0001Lux @ (F1.5,AGC ON)
Signal-to-Noise Ratio	>55dB
Day and Night Switching Mode	Auto ICR Filter Switching, Automatic, Color, Black and White

Thermal	
Resolution	640x512~12μm
Field of View	(H) 12.48°x (V) 10.03°/35mm
Wavelength	8~14μm

Network Parameters	
Compression Standard	H.264/H.265
Bit Rate	512Kbps~4Mbps
Bit Stream	Support Dual Stream
Protocol	ONVIF2.4, RTSP, TCP/IP, HTTP, DHCP, DNS, DDNS, RTP, PPPoE, NTP, UPnP

Others	
Protection	Lightning Protection, Surge Protection, Spike Protection, IP66 Encapsulation
Operating Temperature and Humidity	-30°C~+60°C, ≤90%RH(No Frosting)
Weight	≤10kg
Power Consumption	≤30W

Temperature Measurement

TEMPERATURE MEASUREMENT

Portable Temperature Measurement Thermal Imager

PTM Portable Temperature Measurement Thermal Imager

DV Portable Temperature Measurement Thermal Imager

Online Temperature Measurement Camera

Duo-vision Temperature Measurement T-type PTZ

Dual-Spectrum Temperature Measurement Dome Camera

VOT-M6DE Series Temperature Measurement Explosion-proof Bullet

VOT-M6DA Series Temperature Measurement Bullet

Thermal Analyzer

Special Thermal Analyzer For Rapid Maintenance

Professional Thermal Analyzer

Portable Temperature Measurement Thermal Imager

PTM Portable Temperature Measurement Thermal Imager

The PTM portable temperature measurement thermal imager is equipped with thermal imaging and visible light imaging technology. It can accurately capture the temperature of each pixel of the target, and the dual-light fusion method can capture the state of the target more clearly.

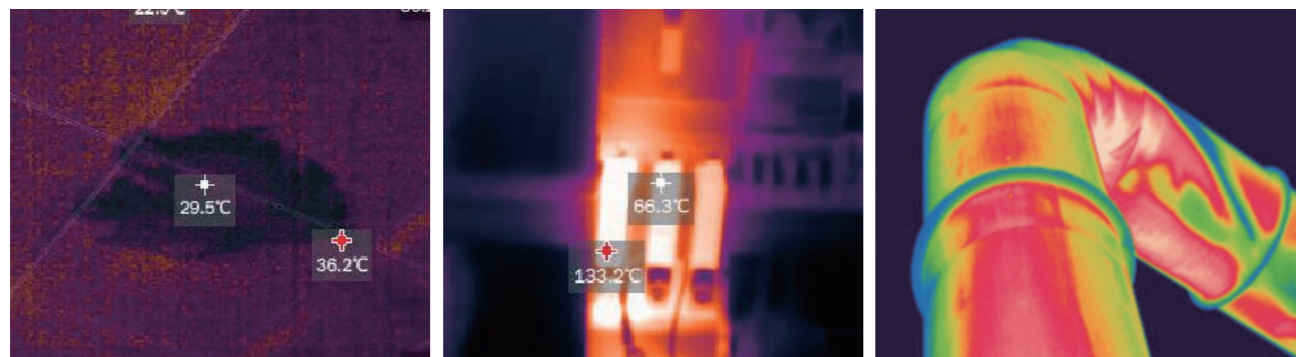


VOT-PTM304/VOT-PTM204

Product features

- Three fusion modes of visible light and thermal imaging
- Three image enhancement modes are suitable for different applications
- WIFI wireless can be connected to the Internet. The computer analysis software meets more professional industry applications
- Multiple temperature measurement methods
- The large-capacity internal memory can store up to 20,000 photos
- Temperature measurement range: -10°C to 450°C
- Three photos are stored for taking pictures, and multi-perspective analysis is available

Application Scenarios



Water Leakage Detection

Electric Power And Electrician Detection

Heating And Floor Heating Detection

Product Parameters

Thermal	VOT-PTM304/VOT-PTM204
Resolution	320x240/256x192
Band	8~14μm
Frame Rate	25Hz
Field of View	52°x34°/42°x32°
Temperature Measurement Range	Standard: -10°C to +450°C
Temperature Measurement Accuracy	±2°C or ±2% of the reading
Visible Light	
Resolution	640x480
Frame Rate	25Hz
LED	Support
Image Display	
Screen Size	3.5 inches
Image Enhancement	Standard Image, High Contrast Enhancement, Soft Enhancement
Image Modes	Edge Mode, Overlay Mode, Picture-in-Picture, Single Infrared, Single Visible Light
Storage	
Capacity	Built-in memory, can store >20,000 pictures
Storage Mode	Synchronously store infrared thermal images, visible light images, on-site working images
File Format	TIFF format, support background full-scale temperature analysis
General	
Charging	Built-in battery, it is recommended to use a general USB charger above 2A
Working Duration	Can be used continuously for 4 hours at 25 °C
WI-FI	Supports PC software data transmission
Interface	USB Type-C (supports data transmission and charging)
Working Temperature	-20°C~+60°C
Ambient Temperature	-40°C~+85°C
Encapsulation	IP54
Size (mm)	237.8x90x100
Weight	350g

Portable Temperature Measurement Thermal Imager

PTM Portable Temperature Measurement Thermal Imager

PTM Handheld Temperature-Measuring Thermal Imager centered on the dual technologies of infrared thermal imaging and visible light imaging, the temperature data of each pixel of the target can be accurately captured, and the detailed status of the target can be clearly restored via dual-image fusion technology. Precise temperature measurement and intuitive target observation are effortlessly balanced, resulting in more efficient detection and clearer images. Both portability and core performance are well addressed, meeting the needs of various mobile detection scenarios.

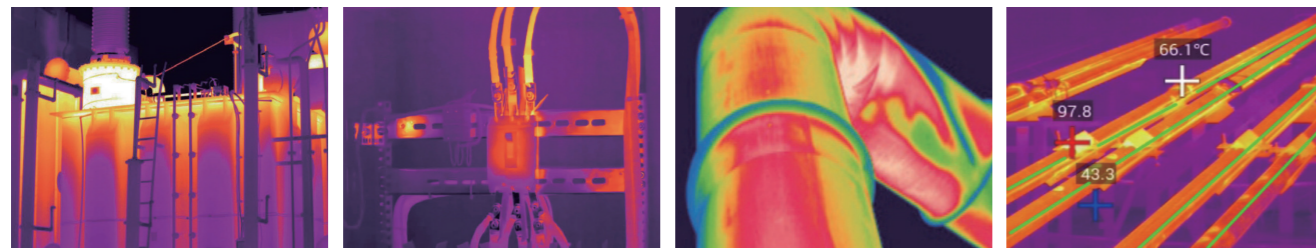


VOT-PTM640C

Product features

- Integrating infrared, visible light, and laser indicator for precise targeting
- High sensitivity, low noise, low NETD
- -20°C~1600°C wide temperature measurement range
- IP54 encapsulation for waterproof and dustproof, 2m drop protection
- Equipped with professional PC analysis software

Application Scenarios



Electrical inspection

Equipment inspection

HVAC leakage detection

Petrochemical industry

Product Parameters

	VOT-PTM640C
Thermal imaging	
Detector type	Vanadium oxide
IR Resolution	640×512
Pixel pitch	12μm
Frame rate	25Hz
Spectral Range	8 ~ 14μm (LWIR)
NETD	≤40mK (@F/1.0, 25°C)
Temperature measurement	
Measurement range	-20°C~+150°C (standard) 150°C~600°C (optional) 550°C~1600°C (optional)
Measurement accuracy	Max. (±2 °C, ±2%)
Analysis tools	Spots, Line, Area, Isothermal analysis, Temperature alarm
Temperature capture	Support Full screen MAX or MIN temperature auto captured
Parameter settings	Emissivity, Reflected temperature, Target distance, Humidity, Atmospheric temperature
Visible	
Digital camera	2MP
Lens	
Focal length	36mm, 18mm (standard), 9.2mm
FOV	12° Lens: 12.2°×9.8° (36mm) 24° Lens: 24°×19.4° (18mm) 48° Lens: 48.2°×38.4° (9.2mm)
Focusing	Manual
Display	
Display screen	4.3 inch, TFT
Image adjustment	
Image mode	Infrared image, visible light image, PIP, dual-spectrum fusion
Color palettes	Black hot, white hot, iron red (default), Rainbow, red hot, etc.
Digital zoom	x1~x4 (0.1 step)
Image processing	Non-uniformity correction, digital filter noise reduction, Digital detail enhancement, etc.

Power	
Power supply	5V DC
Charging method	USB Type C
Operating time	≥6Hours
Port	
External port	USB Type C
Tripod Port	UNC 1/4-20 interface for tripod
System function	
Laser indicator	Support
Headlamp	Support
Buzzer	Support
Image storage	
Storage capacity	Built-in(128GB)
Storage format	JPG
Physical characteristics	
Weight	≤700g
Dimensions	246 x 121x 141mm
Encapsulation	IP54
Environmental parameters	
Operating temperature	-10°C ~ 50°C
Storage temperature	-20°C ~ +60°C
Operating humidity	5~95%, no condensation
Certification	CE, RoHS and FCC

DV-type Portable Temperature Measurement Thermal Imager

The DV-type portable temperature measurement thermal imager can be equipped with a 1024x768 high-resolution detector, a 5.8-inch sunlight-visible large screen and several unique image processing patent technologies. The overall machine has a comfortable hand feel and excellent control feeling. The lens module can be rotated to adjust the shooting angle. With a high-definition eyepiece, it is suitable for easy framing in a bright sunny environment.



VOT-640G/VOT-1000G

Product features



High-definition infrared thermal images

1024x768 resolution detector
5.8-inch sunlight-visible large screen
Several unique image processing patent technologies



Ergonomic design

Comfortable overall hand feel
Excellent control feeling
The lens module can be rotated to adjust the shooting angle



Accurate and stable temperature measurement

In various ambient temperatures and temperature alternations, the temperature measurement accuracy is guaranteed to be $\pm 2^{\circ}\text{C}$ or $\pm 2\%$



High-quality target surface uniformity

Full-screen $\pm 0.5^{\circ}\text{C}$ target surface uniformity guarantee
High accuracy of full-pixel temperature measurement



Multiple format storage

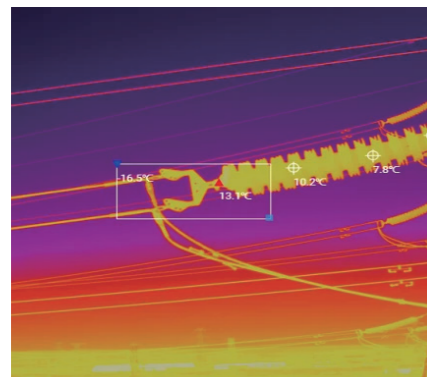
Image containing full temperature
State Grid standard format



More practical functions

QR code scanning
Text and voice annotations

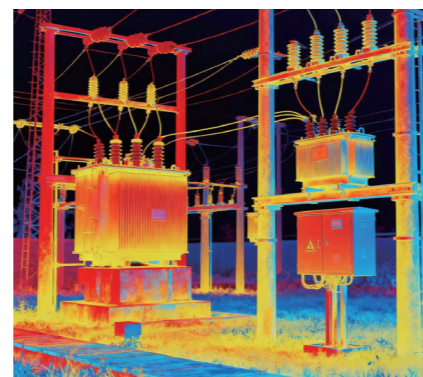
Application Scenarios



Power Distribution



Power Transmission



Power Substation

Product Parameters

PTZ Parameters	VOT-640G	VOT-1000G
Detector Resolution	640x512	1024x768
Temperature Resolution	$<0.05^{\circ}\text{C}@30^{\circ}\text{C}$	$<0.04^{\circ}\text{C}@30^{\circ}\text{C}$
Working Band	7.5~14 μm	
Lens	24°x18°(standard),6°/12°/48°(optional)	
Focusing Method	Manual, Electric, Automatic	
Display Screen	5-inch sunlight-visible display screen, 800*480 resolution	5-inch sunlight-visible display screen, 1080*768 resolution
Touch Screen	Capacitive touch screen	

Temperature Measurement Parameters

Standard Temperature Measurement Parameters	Standard: $-20^{\circ}\text{C}\sim 150^{\circ}\text{C}$, $0^{\circ}\text{C}\sim 410^{\circ}\text{C}$ Optional: $+300^{\circ}\text{C}\sim +650^{\circ}\text{C}$, $+300^{\circ}\text{C}\sim +2000^{\circ}\text{C}$
Temperature Measurement Accuracy	$\pm 2^{\circ}\text{C}$ or $\pm 2\%$ of the reading

Visible Light

Digital Camera Built-in 5-megapixel camera with LED lights

Laser Measurement

Laser Measurement Range	0.01~40m
Laser Measurement Accuracy	$\pm 1\text{cm}$ or 1% of the measured value, whichever is greater
Laser Alignment	The position of the laser measurement is automatically displayed on the infrared image

Power

Battery Type	Removable rechargeable lithium battery
Power Supply	DC 12V
Working Time	3 hours for general purposes at 25°C

Transmission

Wireless Transmission	Supports WIFI and 4G
Bluetooth	Supports recording and playback of Bluetooth headphones
USB Transmission	Images in the SD card of the machine can be transferred to the PC via the USB interface

Environmental/Physical Parameters

Weight	1.6kg (including battery)
Size (mm)	210x119x174
Operating Temperature	$-20^{\circ}\text{C}\sim 55^{\circ}\text{C}$
Storage Temperature	$-40^{\circ}\text{C}\sim 70^{\circ}\text{C}$
Humidity	$<95\%$, non-condensing
Encapsulation	IP54

Duo-vision Temperature Measurement T-type PTZ

Duo-vision Temperature Measurement T-type PTZ

Equipped with the VOT high-performance infrared detector (640 resolution) and a high-precision thermal imaging lens, it features clear images, high sensitivity, accurate temperature measurement, and stable operation. Despite the influence of lighting environments, it can capture clear and accurate image information in scenarios like no-light or backlight conditions, enabling 24/7 monitoring. This camera comes with remote configuration capability, simple operation, reliable and stable performance, and easy system integration. It can be widely applied in industries and places such as fire protection, electric power, iron and steel, industrial parks, and fishing prohibition areas.



VOT-M6DT

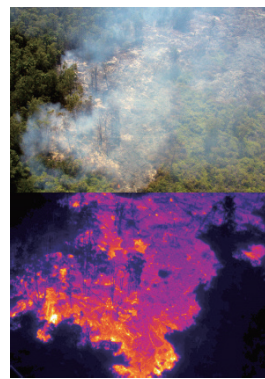
Product Features

- Cost-effective, utilizing a 640x512 thermal imaging detector.
- Supports network-based remote upgrades, enabling remote maintenance.
- Multiple lens options available to meet diverse user requirements.
- Outputs standard protocol ONVIF for quick integration with various backend systems.
- Multiple temperature measurement tools available to suit different application scenarios.
- Supports SD card expansion, with a maximum capacity of up to 512GB.

Application Scenarios



Power Grid



Forest Monitoring



Industrial Park Monitoring



Steel Industry

Product Parameters

Infrared Thermal Imaging	
Detector Type	Vanadium Oxide (VOx) Uncooled Focal Plane Array (FPA) Detector
Detector resolution	640×512
Pixel pitch	12μm
Spectral Range	8~14 μm
NETD	≤40mK
Lens	Fixed-focus Athermal Lenses: 6.6/9.1/13/15/19/25/35mm; Fixed-focus Electrically Tunable Lenses: 19/25/35mm
Field of View (FOV)	13mm: 32.9°×26.6° 15mm: 28.7°×23.1° 19mm: 22.9°×18.4° 25mm: 17.6°×14.0° 35mm: 12.5°×10.0° 50mm: 8.8°×7.0°
Image Enhancement (DDE)	Supports
Digital Zoom	×1/×2/×4
Gain Control	Auto/Manual
Noise Reduction	2D Noise Reduction / 3D Noise Reduction
Thermal Imaging Image Flip	Left-Right / Up-Down
Color Palettes	14 types in total: White Hot, Black Hot, Iron Red, Inverse Iron Red, Rainbow, Lava, Feather Red, Spring, Feather Red, Amber, Iron Gray, Blue Black, Blue Red, Multi-Color, RGB Inverse
Temperature Measurement Range	-20°C~+150°C, 140°C~600°C
Temperature Measurement Accuracy	±2°C or ±2% of the reading
Visible Light	
Sensor Type	1/2.8 Progressive Scan CMOS
Sensor Resolution	1920×1080
Visible Light Pixels	2 Megapixels
Horizontal Resolution	≥1200 TVL (Center); ≥900 TVL (Edge)
Minimum Illumination	0.001 Lux/F1.78 (Color); 0.0005 Lux/F1.78 (Black & White)
Noise Reduction	3D Noise Reduction
Signal-to-Noise Ratio (SNR)	> 55dB
Anti-Shake Function	Supports Electronic Image Stabilization (EIS)
Electronic Shutter	1/25s to 1/100,000s
Strong Light Suppression	Supports
Digital Zoom	16x
Day/Night Switching	Auto-switching with ICR Infrared Filter
Visible Light Image Flip	180°
Exposure Compensation	Supports
Focus Mode	Auto/Manual
Lens Focal Length	5.1-127.5mm, 25x Optical Zoom
Aperture Range (Supplementary)	F1.78-F2.86
Horizontal Field of View	51.69°-3.66° (Wide Angle - Telephoto)
Zoom Speed	< 3s
Minimum Focus Distance	100mm-1500mm (Wide Angle - Telephoto)
Light Supplement	
Infrared Supplement Distance	≥80m
Audio & Video	
Video Compression Standard	H.265; H.264
Audio Format	G.711a, G.711mu, PCM, G.726, PCMA, MP3, AAC, WAV
Image Encoding Format	JPEG

PTZ (Pan-Tilt-Zoom)	
Rotation Range	Horizontal: 0°~360° Continuous Rotation; Vertical: +90°/-90°
Manual Control Speed	Horizontal: 0.01°/s~80°/s; Vertical: 0.01°/s~60°/s
Preset Position Speed	Horizontal: 0.01°/s~80°/s; Vertical: 0.01°/s~61°/s
PTZ Positioning Accuracy	±0.1°
Power-off Memory	Supports
PTZ Limit	Supports
Wiper Function	Supports manual/automatic activation; supports single/multiple wipes (configurable); wiper frequency and duration are configurable

Functions	
Language Interface	Chinese/English (selectable)
Two-Way Audio	Supports
Network Protocols	HTTP, HTTPS, TCP, ARP, RTSP, RTP, UDP, RTCP, SMTP, FTP, DHCP, DNS, IPv4/v6, NTP
Region of Interest (ROI)	Supports (customizable content)
Maximum Concurrent Viewers	≥12 Channels
Fault Detection	Network Disconnection Detection; IP Conflict Detection; Storage Space Detection
Dual System Backup	Supports
Intelligent Functions	Supports thermal imaging target detection, and can link the visible light channel to track the target
Picture-in-Picture (PIP)	Supports, ensuring no data loss when power is cut off
Dual-Spectrum Linkage	Supports tripwire intrusion, regional intrusion, crowd gathering; fire detection (infrared + visible light), smoke recognition

Interfaces	
Network Interface	RJ45, supports 100M/1000M Network Data Transmission
Alarm Linkage	Links to preset positions / cruises / tours / triggers relay output / uploads to platform

Power Supply	
Overall Power Supply	DC10.5V~DC18V
Overall Power Consumption	≤18W during normal operation (thermal imaging and visible light previewing simultaneously, horizontal and vertical movement simultaneously)

Environmental Parameters	
Operating Temperature	-30°C~+60°C
Operating Humidity	≤95%
Storage Temperature	-50°C~+70°C
Environmental Adaptability	Supports heating and anti-fog functions
Corrosion Resistance	Complies with GB/T 10125 (48-hour test cycle)
Continuous Operating Time	≥5 Years

Reliability		Physical Characteristics	
Protection Class	IP66	Product Dimensions	≤200×340×195mm
PTZ Cable Outlet	Side Outlet	Weight	5.15kg
Breakdown Voltage Resistance	Power: 6000V Signal: 4000V		

Dual-spectrum temperature measurement dome camera

Dual-spectrum temperature measurement dome camera

Equipped with self-developed high-performance 640-resolution infrared detector and a high-precision thermal imaging lens, it features clear images, high sensitivity, accurate temperature measurement, and stable operation. Not affected by lighting environments, it can capture clear and accurate image information in scenarios such as no-light or backlight conditions, enabling 24/7 monitoring. This camera comes with remote configuration capability, simple operation, reliable and stable performance, and easy system integration. It can be widely applied in scenarios including industrial safety & energy, safety & fire detection, perimeter protection, and smart city traffic management.



VOT-M6DD

Product Features

- Cost-Effective, equipped with a 640×512 thermal imaging detector.
- Supports network remote upgrade, enabling remote maintenance.
- Multiple optional lenses available to meet users' diverse needs.
- Outputs national standard protocols, facilitating quick integration into various backend systems.
- Multiple optional temperature measurement tools to meet the needs of different temperature measurement scenarios.
- Supports 3D positioning and intelligent algorithms, featuring stable operation.

Application Scenarios



Firefighting



Industrial Park



Power industry

Product Parameters

Specific Parameter Item	Parameter Value		
Detector Type	VOx FPA Detector	Infrared Supplement Distance	≥80m
Detector resolution	640×512	Video Compression Standard	H.265; H.264
Pixel pitch	12μm	Rotation Range	JPEG
Spectral Range	8~14 μm	Manual Control Speed	Horizontal: 0°~360° Continuous Rotation; Vertical: 0°~90°
NETD	≤40mK	Preset Position Speed	Horizontal: 0.6°~200°/s; Vertical: 3.5°~30°/s Horizontal: 0.01°/s~200°/s; Vertical: 0.01°/s~30°/s
Lens	Fixed-focus Athermal Lenses: 6.6/9.1/13/15/19/25/35mm; Fixed-focus Electrically Tunable Lenses: 19/25/35mm	PTZ Positioning Accuracy	±0.1°
Field of View (FOV)	13mm: 32.9°×26.6° 15mm: 28.7°×23.1° 19mm: 22.9°×18.4° 25mm: 17.6°×14.0° 35mm: 12.5°×10.0° 50mm: 8.8°×7.0°	Power-off Memory	Supports
Image Enhancement (DDE)	Supports	PTZ Limit	Supports
Digital Zoom	×1/×2/×4	Wiper Function	Supports
Gain Control	Auto/Manual	Language Interface	User-friendly interface; Chinese /English
Noise Reduction	2D Noise Reduction / 3D Noise Reduction	Two-Way Audio	Supports
Color Palettes	14 types in total: White Hot, Black Hot, Iron Red, Inverse Iron Red, Rainbow, Lava, Feather Red, Spring Feather Red, Amber, Iron Gray, Blue Black, Blue Red, Multi-Color, RGB Inverse	Network Protocols	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; IPv4/v6; NTP
Temperature Measurement Range	-20°C~+150°C; 140°C~600°C	Region of Interest (ROI)	Supports (customizable content)
Temperature Measurement Accuracy	±2°C or ±2% of the reading	Maximum Concurrent Viewers	≥12 Channels
Sensor Type	1/2.8 Progressive Scan CMOS	Fault Detection	Network Disconnection Detection; IP Conflict Detection; Storage Space Detection
Sensor Resolution	1920×1080	Dual System Backup	Supports
Pixels	2 Megapixels	Intelligent Functions	Supports IE Browser; 360 Browser; Sogou Browser; Google Chrome, Mozilla Firefox
Horizontal Resolution	≥1200 TVL (Center); ≥900 TVL (Edge)	Network Interface	RJ45, supports 100M/1000M network data transmission
Minimum Illumination	0.001 Lux/F1.78 (Color); 0.0005 Lux/F1.78 (Black & White)	RS-485 Interface	1 channel
Noise Reduction	3D Noise Reduction	Overall Power Supply	DC 12V/4A
Signal-to-Noise Ratio (SNR)	> 55dB	Overall Power Consumption	25W (MAX)
Anti-Shake Function	Supports Electronic Image Stabilization (EIS)	Operating Temperature	-30°C~+60°C
Electronic Shutter	1/25s to 1/100,000s	Operating Humidity	≤90% RH (no condensation)
Backlight Compensation	Supports, with customizable area	Storage Temperature	-50°C~+70°C
Wide Dynamic Range (WDR)	Supports	Corrosion Resistance	Complies with GB/T 10125 (48-hour test cycle)
Strong Light Suppression	Supports	Continuous Operating Time	≥5 Years
Digital Zoom	16x	Application Scenarios	Warehouses, Garages, Oil Depots, Parks, Scenic Areas, Oil Fields, Rural Fire Prevention
Day/Night Switching	Auto-switching with ICR Infrared Filter	Protection Class	IP66
Image Flip	180°	Protection Performance	TVS 3000V (lightning protection, surge protection, transient voltage suppression)
Exposure Compensation	Supports	Product Dimensions	≤227.8×362.3mm
Focus Mode	Auto/Manual	Weight	6.6kg
Lens Focal Length	5.1-127.5mm, 25x Optical Zoom		
Aperture Range	F1.78-F2.86		
Horizontal Field of View	51.69°~3.66° (Wide Angle - Telephoto)		
Zoom Speed	< 3s		
Minimum Focus Distance	100mm-1500mm (Wide Angle - Telephoto)		

Dual-spectrum Temperature Measurement Bullet

VOT-M6DE Series Temperature Measurement Explosion-proof Bullet

The M6DE Series Explosion-Proof Temperature Measurement Bullet Camera integrates thermal imaging monitoring, infrared temperature measurement, and visible light detection functions into one. Adopting an advanced high-resolution vanadium oxide (VOx) uncooled infrared detector, the product delivers excellent image quality, accurate temperature measurement, and reliable stability. It can be widely applied in fields such as textiles, chemicals, coal mining, and petroleum & petrochemical industries, facilitating enterprises' safe production and effectively ensuring perimeter security.



VOT-M6DE

Product Features

- Cost-effective, featuring a 640×512 thermal imaging detector.
- GB-compliant standard protocol output for seamless integration with various backend systems.
- Supports remote firmware upgrades over the network, enabling remote maintenance.
- Multiple temperature measurement tools are available to meet the needs of different scenarios.
- Offers multiple lens options to meet diverse user requirements.
- Excellent explosion-proof performance, strong protective capability, and suitable for applications in various hazardous sites.

Application scenarios



Textile



Chemical industry



Coal mine



Petroleum and petrochemical

Product Parameters

Infrared Thermal Imaging	
Detector Type	Vanadium Oxide (VOx) Uncooled Focal Plane Array (FPA) Detector
Detector resolution	640×512
Pixel pitch	12μm
Spectral Range	8~14 μm
NETD	≤40mk
Lens	6.1/9.1mm; Free focus
Field of View (FOV)	60.38°×49.92°/45.8°×37.3°
Image Enhancement	Supports
Digital Zoom	×1/×2/×4/×8
Color Palettes	14 types in total: White Hot, Black Hot, Iron Red, Inverse Iron Red, Rainbow, Lava, Feather Red, Spring Feather Red, Amber, Iron Gray, Blue Black, Blue Red, Multi-Color, RGB Inverse
Temperature Measurement Range	-20°C~+150°C
Temperature Measurement Accuracy	Max (±2°C, ±2%)
Visible Light	
Sensor Type	1/2.8-inch CMOS
Sensor Resolution	2592×1944
Lens Focal Length	6mm
Lens Aperture	F1.6
Minimum Illumination	Color: 0.001 lux @ f/1.6; Black & White: 0.0001 lux @ f/1.6
Noise Reduction	2D Noise Reduction / 3D Noise Reduction
White Balance	Supports
Backlight Compensation	Supports
Wide Dynamic Range (WDR)	120dB
Strong Light Suppression	Supports
Audio & Video	
Video Compression Standard	H.265; H.264
Image Encoding Format	JPEG
Function	
Language Interface	User-friendly interface; Chinese /English
Two-Way Audio	Supports
Network Protocols	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; IPv4/v6; NTP
Region of Interest (ROI)	Supports (customizable content)
Maximum Concurrent Viewers	
Fault Detection	Network Disconnection Detection; IP Conflict Detection; Storage Space Detection
Dual System Backup	Supports
Intelligent Functions	Supports tripwire intrusion, regional intrusion; fire detection, smoke recognition

Interfaces	
Network Interface	RJ45, supports 100M/1000M network data transmission
RS-485 Interface	1 channel
Power Supply	
Overall Power Supply	DC 12V (optional PoE power supply, compliant with IEEE 802.3at standard)
Overall Power Consumption	Maximum 10W
Environmental Parameters	
Operating Temperature	-30°C~+60°C
Operating Humidity	≤90% RH (no condensation)
Storage Temperature	-50°C~+70°C
Corrosion Resistance	Complies with GB/T 10125 (48-hour test cycle)
Continuous Operating Time	≥5 Years
Application Scenarios	Substations, Transmission Lines, Coal Mines, Warehouses
Reliability	
Protection Performance	TVS 3000V (lightning protection, surge protection, transient voltage suppression)
Protection Class (Duplicate)	IP67

Certificate of Conformity



VOT-M6DA Series Temperature Measurement Bullet

The M6DA series temperature measurement bullet integrates thermal imaging monitoring and temperature measurement, and visible light detection functions. The infrared monitoring adopts an advanced high-resolution vanadium oxide uncooled infrared detector, with excellent image quality, accurate temperature measurement, stability and reliability. The visible light monitoring adopts a high-definition resolution sensor, with clear images and a wide detection range. It can be widely used in small-scale indoor and outdoor monitoring scenarios, with excellent observation effects, achieving temperature visualization, and providing dual protection for perimeter security day and night.

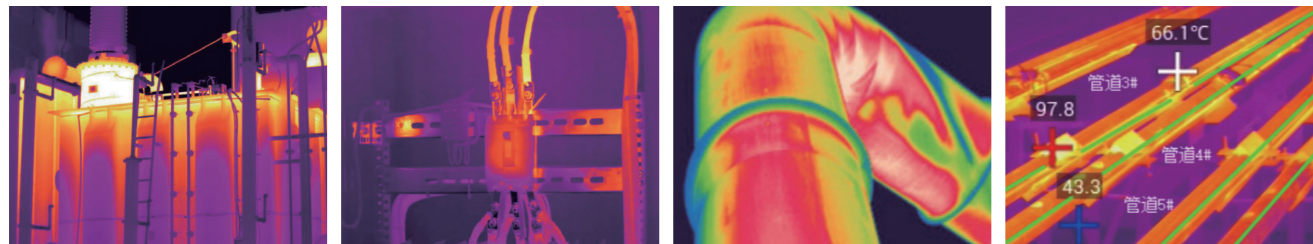


VOT-M6DA

Product Features

- Cost-Effective, equipped with a 640×512 thermal imaging detector.
- Supports network remote upgrade, enabling remote maintenance.
- Multiple optional lenses available to meet users' diverse needs.
- Outputs national standard protocols, facilitating quick integration into various backend systems.
- Multiple optional temperature measurement tools to meet the needs of different temperature measurement scenarios.
- Adopts intelligent algorithms, featuring stable operation.

Application scenarios



Electrical inspection

Equipment inspection

HVAC leakage detection

Petrochemical industry

Product Parameters

Infrared Thermal Imaging		Interfaces	
Detector Type	Vanadium Oxide (VOx) Uncooled Focal Plane Array (FPA) Detector	Network Interface	RJ45, supports 100M/1000M network data transmission
Detector resolution	640×512	RS-485 Interface	1 channel
Pixel pitch	12μm	Power Supply	
Spectral Range	8~14 μm	Overall Power Supply	DC 12V (optional PoE power supply, compliant with IEEE 802.3at standard)
NETD	≤40mk	Overall Power Consumption	Maximum 10W
Lens	6.1/9.1mm; Fixed-focus Athermal Lens, F=1.0	Environmental Parameters	
Field of View (FOV)	60.38°×49.92° / 45.8°×37.3°	Operating Temperature	-30°C~+60°C
Minimum Focus Distance	≤1m	Operating Humidity	≤90% RH (no condensation)
Image Enhancement	Supports	Storage Temperature	-50°C~+70°C
Digital Zoom	×1/×2/×4/×8	Corrosion Resistance	Complies with GB/T 10125 (48-hour test cycle)
Color Palettes	14 types in total: White Hot, Black Hot, Iron Red, Inverse Iron Red, Rainbow, Lava, Feather Red, Spring Feather Red, Amber, Iron Gray, Blue Black, Blue Red, Multi-Color, RGB Inverse	Continuous Operating Time	≥5 Years
Temperature Measurement Range	-20°C~+150°C	Reliability	
Temperature Measurement Accuracy	Max (±2°C, ±2%)	Protection Class	IP66
Visible Light		Installation Method	Wall Mount
Sensor Type	1/2.8-inch CMOS	Adapter	Optional
Sensor Resolution	2592×1944	Protection Performance	TVS 3000V (lightning protection, surge protection, transient voltage suppression)
Lens Focal Length	6mm	Physical Characteristics	
Lens Aperture	F1.6	Product Dimensions	227.8×362.3mm
Minimum Illumination	Color: 0.001 lux @ f/1.6; Black & White: 0.0001 lux @ f/1.6	Weight	1.8kg
Gain Control	Auto/Manual		
Noise Reduction	2D Noise Reduction / 3D Noise Reduction		
White Balance	Supports		
Backlight Compensation	Supports		
Wide Dynamic Range (WDR)	120dB		
Strong Light Suppression	Supports		
Audio & Video			
Temperature Measurement Accuracy	H.265; H.264		
Image Encoding Format	JPEG		
Functions			
Language Interface	User-friendly interface; Chinese / English		
Two-Way Audio	Supports		
Network Protocols	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; IPv4/v6; NTP		
Region of Interest (ROI)	Supports (customizable content)		
Fault Detection	Network Disconnection Detection; IP Conflict Detection; Storage Space Detection		
Dual System Backup	Supports		
Intelligent Functions	Supports tripwire intrusion, regional intrusion; fire detection, smoke recognition		

Thermal Analyzer

Special Thermal Analyzer for Rapid Maintenance

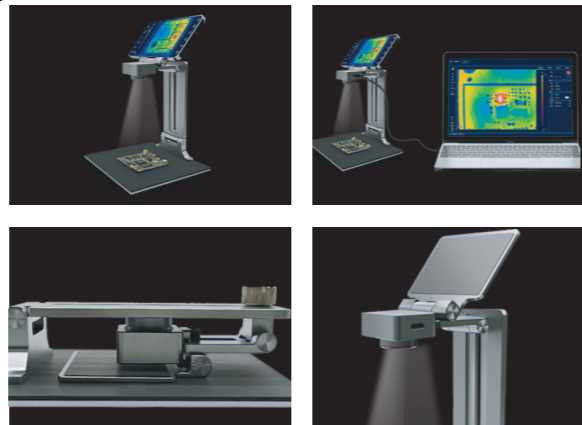
Special thermal analyzer for rapid maintenance is applied in circuit board maintenance. It can quickly and accurately locate the positions of leakage and short circuit points to achieve the purpose of rapid maintenance. It can also verify the rationality of the thermal structure design of the circuit board layout and conduct equipment evaluation.



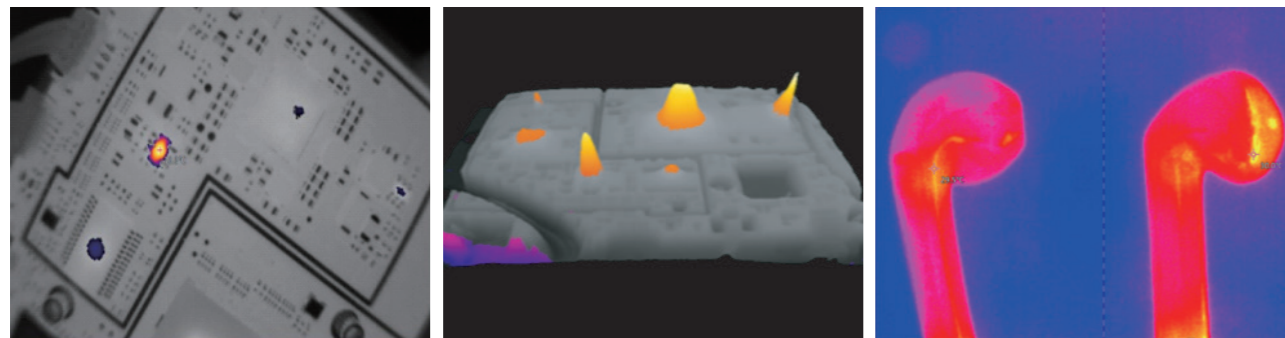
VOT-R20T

Product Features

- One-button quick search for leakage and short-circuit locations
- Fixed focal length, easy to use
- Supports macro magnifying lens for localized magnified display
- 3D thermal field analysis
- Super high temperature detection range -15°C~600°C
- Can be connected to cell phone APP, can also be connected to the PC computer analysis
- Foldable rack, like a book, easy to carry
- Compatible with standard analysis software and professional version of the analysis software



Application Scenarios



Quickly Locate the Leakage Position

Observe Device Temperature Changes

Compare And Screen Defective Products

Product Parameters

Thermal Imaging	
Resolution	256x192
Frame rate	25Hz
Field of view	56°x42°
Temperature range	15°C~+600°C(-4°F+1112°F)
Temperature accuracy	±2°C or 2% (without macro lens)
Macro Lens	Fixed snap-on macro lens (temperature measurement accuracy ±5°C or 4% with macro lens)
Temperature measurement distance	100~150mm(Using a teleconverter lens, you can observe at 30mm)

Software	
Software Configuration	Standard version software (support WIN10 System) Android software
Software Function	Quickly find the leakage point, high temperature quick search, point temperature measurement, line temperature measurement, surface temperature measurement, 3D thermal field, local detailed temperature distribution on the temperature measurement line, automatic upgrading, dual-board comparison, over-the-limit temperature alarm.

General	
Interface	USB Type C
Operating temperature	0°C~50°C
Storage temperature	-20°C~60°C
Humidity	95% Relative humidity

Professional Thermal Analyzer

The professional thermal analyzer supports macro lenses, which can provide high-definition infrared thermal images and accurate temperature measurement data for hardware design, heat dissipation and heat conduction materials, thermal design laboratories, and R&D engineers of heat dissipation systems to observe micron-level targets.



VOT-R30T/VOT-R60T

Product Features

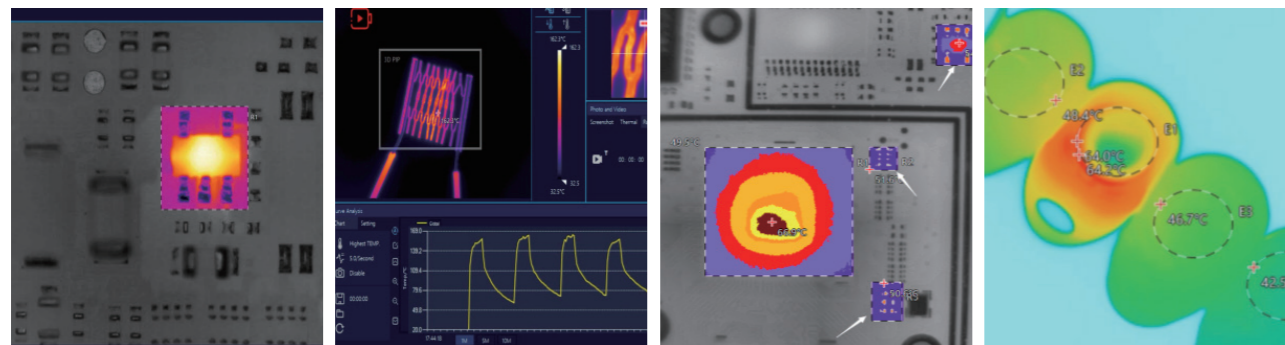
- Quick-change lens design ensures accurate temperature measurement
- High-definition thermal image to view the IC chip pin condition
- Manual focus, easy to focus accurately on the near point
- Voltage, current, and temperature curves, can find the correlation changes
- Multi-dimensional data analysis, providing more detailed data reference.
- Modular analysis data window, you can extract data as you wish.
- Can be connected to the ambient temperature sensor, load power meter, and other sensors, synchronized to provide
- Optional macro lens, can detect 25um target, auxiliary analysis of material properties and defects
- Powerful professional-grade software that connects the unit to a PC via USB.
- Software provides thermal imaging video with temperature data to support offline analysis of product temperature distribution
- Record complete temperature measurement data, including points, lines, boxes, etc., the highest/lowest temperature of the area, the average temperature, etc
- Large graphical information function, can set the emissivity by area, modify the name, etc

Product Parameters

Thermal Imaging	VOT-R30T	VOT-R60T
Resolution	384x288	640x512
field of view	29.2°×21.7°	48.7°×38.6°
Macro Lens	Observation 50μm Distance: 50~80mm	Observation 25μm Distance : 60~100mm
Measure the optimal distance	40~2000mm	40~2000mm
Frame rate	25Hz	
NETD	<50mK@25°C, f1.0	
Temperature range	-20°C~550°C	
Temperature accuracy	-20°C~120°C (2°C or ±2%) ,120°C~550°C (±3%)	
Temperature measurement	Maximum, minimum and average temperatures	
Temperature correction	Automatic	
Image file	Full temperature JPG thermal image	

Software	VOT-R30T	VOT-R60T
Software External Devices	USB interface temperature sensor, fixed model USB power meter (can be customized to dock other models of power meter)	
Software Function	Curve, isotherm, real-time and offline video analysis, point, line and surface polygon temperature measurement, on-line multi-point temperature data, temperature alarm, three types of video recording, EXCEL data logging, dynamic and fixed range, 3D temperature field, emissivity setting in different areas, support for specific power meter connection, support for replacement of the macro lens, video recording of the temperature of the whole radiation flow.	

Application Scenarios



Observation of Small Targets At Micro-Distances

Real-Time Detection of Object Heating Rate And Temperature

Thermal Design Analysis of Circuit Boards

Quality Analysis of Products And Components

CONSUMER ELECTRONICS

Duo-vision Smartphone Thermal Imager

Duo-vision Smartphone Thermal Imager

The Duo-vision Smartphone Thermal Imager adopts an industrial-grade infrared detector with a small pixel pitch and high resolution, and is equipped with a 3.2mm lens. It is a high-precision and fast-response portable infrared thermal imaging analyzer. At the same time, a visible light camera is applied to assist infrared imaging. Compared with single-infrared products, it can display the measured object more clearly. The product is lightweight and portable, plug and play. With the customized professional-level thermal image analysis APP, it can be connected to Android mobile phones to conduct infrared observation and temperature measurement of the target object.

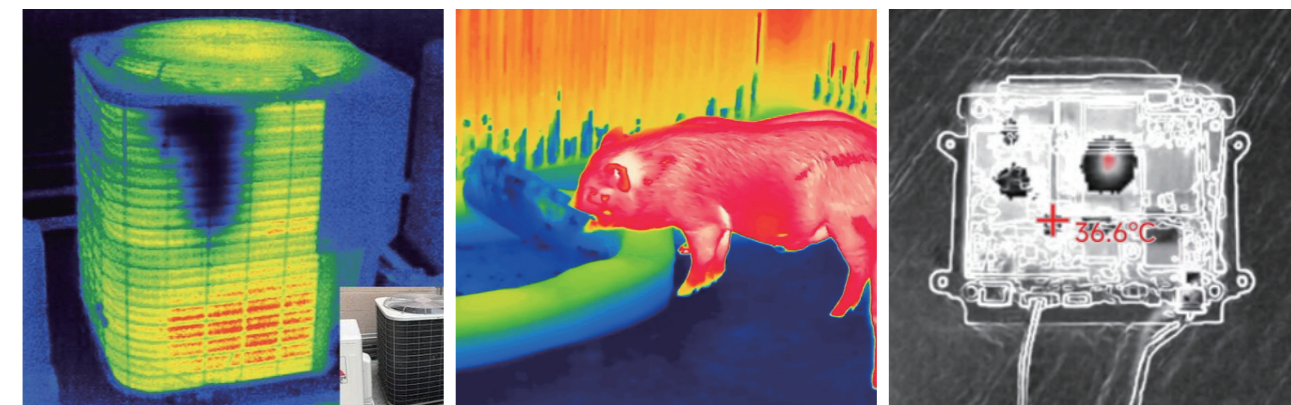


VOT-SP3A

■ Product Features

- Lightweight and portable, with smart phone APP use, support the shooting of photos offline analysis
- Wide temperature measurement range
- Supports high and low temperature tracking
- Supports high-temperature alarms and customized alarm thresholds
- Supports observation of targets within a fixed temperature range
- Supports display of customized temperature range screen, high-temperature area display for many scenarios
- Supports adding dots, lines and rectangular boxes for area temperature measurement, and lines and rectangular boxes support high and low temperature tracking and high temperature alarms.

■ Application Scenarios



Device Detection

Animal Observation

Electronic Circuits

■ Product Parameters

Product Model	VOT-SP3A
Detector Type	Uncooled Vanadium Oxide
Resolution	256x192
Field of view	56°x42°
Operating Wavelength	8~14μm
Frame Rate	25Hz
NETD	<50mK @25°C
Lens	3.2mm
Temperature range	-15°C~600°C
Temperature Accuracy	±2°C or ±2% of reading
Visible Light	
Resolution	640x480
Frame Rate	25Hz
Software Function APP	
Temperature Measurement	Support high and low temperature auto-tracking, center point temperature measurement, point temperature measurement, area temperature measurement, line temperature measurement, temperature range view
Offline analysis	Support offline analysis of captured images, support for point, line and rectangular box analysis
Image display mode	Support visible light mode, multiple visible light and infrared fusion mode, single infrared mode display
Temperature width lock	Support to lock the fixed temperature value observation, highlight the fixed temperature range of the target object
High Temperature Quick Check	Support one-key quick search of high temperature areas
Interval temperature display	Support
Real-time image flip	Support
Image color palette	Iron Red, White Hot, Black Hot, Rainbow, Red Hot, Cold Blue
Photo	Support photo
Video	Support video recording
Image Editing	Support picture graffiti and text notes
Settings	Thermal imaging professional parameters configuration, temperature unit, language, high temperature alarm settings
Physical Parameters	
Working Temperature	-10°C~75°C
Storage Temperature	-45°C~85°C
Encapsulation	IP54

Temperature Measurement

CAMERA CORE AND MODULE

Uncooled camera core and module

UCC3 Camera Module

UCW SE Camera Module

VOT-M6SJ-T Series

AFL Auto Focus Module





UCC3 Camera Module

UCC3 series camera module is equipped with 640x512 high-resolution infrared detector, high-performance signal processing circuitry and LightSmart's unique image processing algorithms, resulting in high image quality, sharp edges, a sense of hierarchy, fast frame rate, and high temperature measurement accuracy.



Product Advantages

-  High sensitivity, clear and stable imaging quality
-  Small size, light weight, low power consumption
-  High frame rate, smooth detection of fast moving targets
-  Highly integrated, easy for secondary development
-  Wide temperature and high precision easy to cope with a variety of applications

Product Parameters

Detector Performance		Image Adjustment	
Detector type	VOx	Brightness, contrast	Automatic/Manual
IR resolution	640x512 384x288	Polarity	White heat, black heat
Pixel pitch	12μm	False color	Iron Red, Anti-Iron Red, Rainbow, Feather Red
NETD	≤40mK	Electronic Magnification	X1, X2, X4
Frame rate	≤60Hz	Image Processing	Non-uniformity Correction, Digital Filter Noise Reduction, Digital Detail Enhancement
Wavelength range	8~14μm	Image Mirroring	Left/right/up/down
Lens Options		Environmental Parameters	
Optical Lens	25mm (Standard) 6/9/13/19/35/50/75mm Optional	Working Temperature	-20°C~+60°C
Field of view	6mm	65.2°x54.2°	42.0°x32.1°
	9mm	46.2°x37.7°	28.7°x21.7°
	13mm	32.9°x26.6°	20.1°x15.1°
	19mm	22.9°x18.4°	13.8°x10.4°
	25mm	17.5°x14.0°	10.5°x7.99°
	35mm	12.5°x10.0°	7.5°x5.7°
	50mm	8.8°x7.0°	5.3°x4.0°
	75mm	5.9°x4.7°	3.5°x2.6°
		Storage temperature	-45°C~+85°C
		Humidity	5~95%, Non-condensing
Interface		Power Supply	
Video Output	CVBS, USB (UVC) BT.656	Power Protection	Over-current protection, over-voltage protection, reverse input protection to suppress high voltage surges
Temperature Measurement	Temperature range -20°C~150°C 140°C~600°C	Power Input	DC 5~12V
Physical Parameters	Temperature accuracy ±2°C or 2% of reading	Power consumption	≤ 1W
Communication	RS-232	Size(mm)	26×26×21.1 (Without lens, connector)
		Weight	≤23g(Without lens, connector)







UCW SE Camera Module

The UCW SE series uncooled camera core is equipped with 640x512 resolution infrared detector, high-performance signal processing circuits and professional image processing algorithms, offering high image quality with sharp edges, sense of depth, fast frame rate. This core has the advantages of small size, low power consumption, cost-effective, customisable. It is suitable for the development and integration of infrared thermal imaging equipment or systems in various fields, as well as all kinds of imaging whole machine and optoelectronic system. It can be applied to industrial process/quality control system, security monitoring, vehicle night vision, IoT, drones, industry 4.0 etc.



UCW SE

Product Advantages

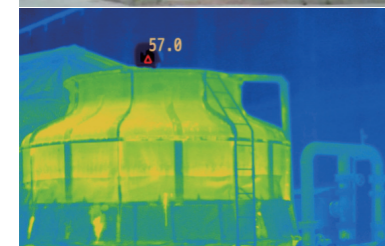
-  Smaller, lighter and lower power consumption
-  A new generation of high-quality image algorithms
-  High sensitivity, clear and stable imaging
-  Customizable lens and user interface
-  High frame rate, smooth video stream
-  A precise and rapid temperature assessment

Product Parameters

UCW SE		
Thermal Imaging	Detector type	VOx
	Resolution	640x512
	Pixel pitch	12μm
	NETD	≤40mK
	Frame rate	≤50Hz
	Spectral range	8~14μm

UCW SE		
Lens	Lens	4.6/6.6/9.1/13/15/19/25/35mm
	FOV	79.7°x67.5° (4.6mm) 60.4°x49.9° (6.6mm) 45.8°x37.3° (9.1mm) 32.9°x26.6° (13mm) 28.7°x23.1° (15mm) 22.4°x18.4° (19mm) 17.5°x14.0° (25mm) 12.5°x10.0° (35mm)
Image adjustment	Bright or Contrast adjustment	Auto or manual
	Polarity	White Hot or Black Hot
	Image Processing	NUC, digital filter noise reduction, digital details enhanced
	Color Palettes	Iron, Iron invert, Rainbow, etc.
	E-Zoom	1.0~10.0x continuous zoom(step 0.1)
Port	Video output	CVBS/USB/MIPI
	Communication Port	UART TTL/USB
Power	Power Protection	Overcurrent protection, overvoltage protection, reverse input protection
	Power Supply	DC 5V~12V
	Power Consumption	≤0.65 W
Environment	Operating Temperature	-20°C~+60°C
	Storage Temperature	-45°C~+85°C
	Humidity	5%~95%, non-condensing
Physics	Weight	≤22g
	Dimension	21×21×31.6mm

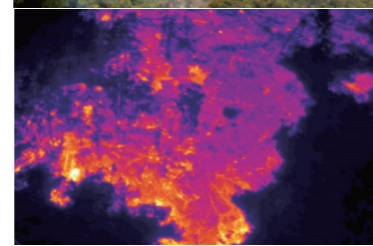
Application Scenarios



Industrial equipment inspection



Power Grid



Forest monitoring

VOT-M6SJ-T



Single Infrared Network Camera

Product Advantages

- High performance, high sensitivity, stable operation
- Compatible with a variety of fixed focus and motorized focus lenses to meet the diverse needs
- Access various systems with SDK and national standard protocol output
- Support overtemperature alarm, temperature difference alarm and interval alarm
- Common network protocols including ONVIF, RTSP, DHCP and others

Product Parameters

VOT-M6SJ-T Series		
Thermal imaging	Detector type	Vanadium oxide
	IR resolution	640*512
	Pixel pitch	12μm
	Spectral range	8 ~ 14 μm
	NETD	≤55mk
	Lens	6.6mm,9.1mm
	FOV	60.4° x 49.9° or 45.8° x 37.3°
	DDE	Support
	Digital zoom	x1/x2/x4
	Color palettes	White heat, black heat, iron red, reverse iron red, rainbow, lava, feather red, spring feather red, amber, iron ash, blue black, blue red, multicolored, RGB reverse color
	Measurement range	-20°C to 150°C, 140°C to 600°C
	Measurement accuracy	Max (±2°C, ±2%)
	Analysis tools	Spots, Line, Area temperature measurement. The area supports circles, squares, and irregular polygons. Up to 21 temperature measurement objects can be added

VOT-M6SJ-T Series		
Video		H.265; H.264
	Resolution	Main stream: 1280 × 1024, 640 × 512 Sub stream: 640 × 512
	Frame rate	Main stream: 1fps ~ 25fps Sub stream: 1fps ~ 25fps
	Image format	JPEG
Function	Language	Chinese, English
	Voice intercom	Support
	Network protocol	HTTP; HTTPS; TCP; ARP; RTSP; RTP; UDP; RTCP; SMTP; FTP; DHCP; DNS; IPv4/v6; NTP
	Access standards	ONVIF, GB/T28181:2022 General monitoring system platform Power Intelligent patrol platform Uniview
	API	ISAPI, SDK
Port	Network	RJ45, 100M/1000M
	RS485	Support
	Alarm input	Support
	Alarm output	Support
Power	Power supply	DC 12V
	Power consumption	≤2.5W
Environmental Parameters	Operating temperature	-30°C ~ +60°C
	Humidity	≤90% RH (no condensation)
	Storage temperature	-50°C ~ +70°C
Physical Characteristics	Dimensions	45*45mm
	Weight	216g

Application Scenarios



Petroleum and petrochemical



Power detection



Forestry Monitoring

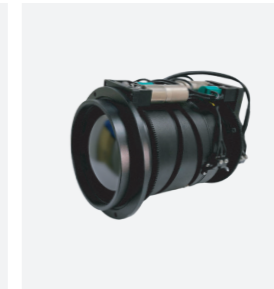
AFL Auto Focus Module



AFL-A1



AFL-B1



The AFL auto focus module series adopts 384x288/640x512 resolution detectors, featuring high sensitivity, high precision, high frame rate, and clear images. It is equipped with a telephoto high-definition electrically adjustable lens and has excellent imaging quality in various complex application scenarios. It can be widely applied in scenarios such as forest fire prevention, airport air defense, and high-altitude lookout.

Product Advantages



High sensitivity, clear and stable imaging quality



Long focal length HD ESC lens



Highly integrated, easy for secondary development



High frame rate, smooth detection of fast moving targets



Fast and precise fully automatic focusing

Product Parameters

Detector Performance

Detector type	VOx
Resolution	384×288/640×512
Pixel Pitch	12μm
Noise Equivalent Temperature Difference	≤40mK
Frame rate	≤60Hz
Spectrum	8~14μm

Physical Parameters

Size(mm)	102x102x126 (A1) 133x133x156.5 (B1)
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Environmental Parameters

Working Temperature	-20°C~+60°C
Storage Temperature	-40°C~+70°C

Lens Options

Optical Lens	50/75/100mm ESC Lens (A1)	25-75/25-100/ 30-150/25-225mm ESC Lens (B1)
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Power Supply

Power Protection	Overcurrent protection, overvoltage protection, reverse input protection to -60V, high voltage surge suppression
Power Input	DC5~12V
Power Consumption	≤1.5W

Interface

Video Output	Analog (standard): CCIR PAL Digital (optional): network port, etc.
Communication	RS-232

To empower humans to perceive the world in more dimensions
