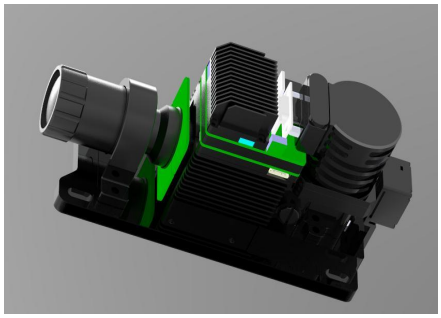
Datasheet

Cooled SWIR Detector

ATD8200-25

Features

- Response: 1.0±0.2μm ~ 2.5±0.2μm
- MCT Focal Plane Array Detector
- Integrated Stirling Cooler
- Cooling: ≤7.5min @ 23±2℃
- Array: 640*512
- Pixel Pitch: 15μm
- Blind Pixel Rate: ≤0.5%
- NETD: ≤50mK
- Response Non-uniformity: ≤7%
- HDMI/USB3.0 Output
- Compact, Supports Development

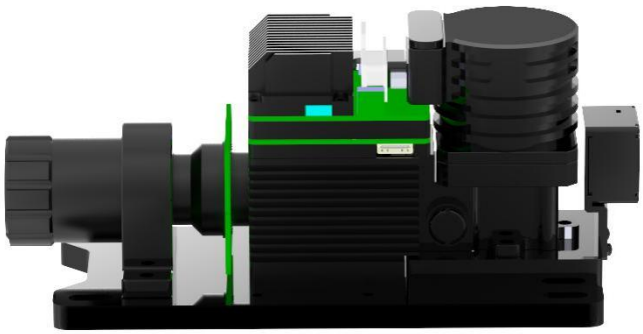


Description

The ATC8225 is a top-tier UAV 6-band multispectral imager featuring a short-wave infrared (SWIR) Detector with a mercury cadmium telluride (MCT) detector and Stirling cooler. It converts 1-2.5μm wavelength infrared signals into high-resolution digital images, with HDMI and USB3.0 video output support.

Designed for low noise and power efficiency, the ATC8225 excels in detecting and identifying threats under diverse conditions, including darkness and harsh weather. This imager is crucial for applications in UAV surveillance, night vision, thermal imaging, and air defense. It supports forward-looking warning, weapon guidance, and infrared diagnostics, reflecting the latest trends in multispectral imaging technology.

Ideal for both military and civilian uses, the ATC8225 enhances performance in panoramic search, temperature measurement, and infrared identification. Discover how this cutting-edge UAV 6-band multispectral imager leads in imaging innovation and versatile applications.



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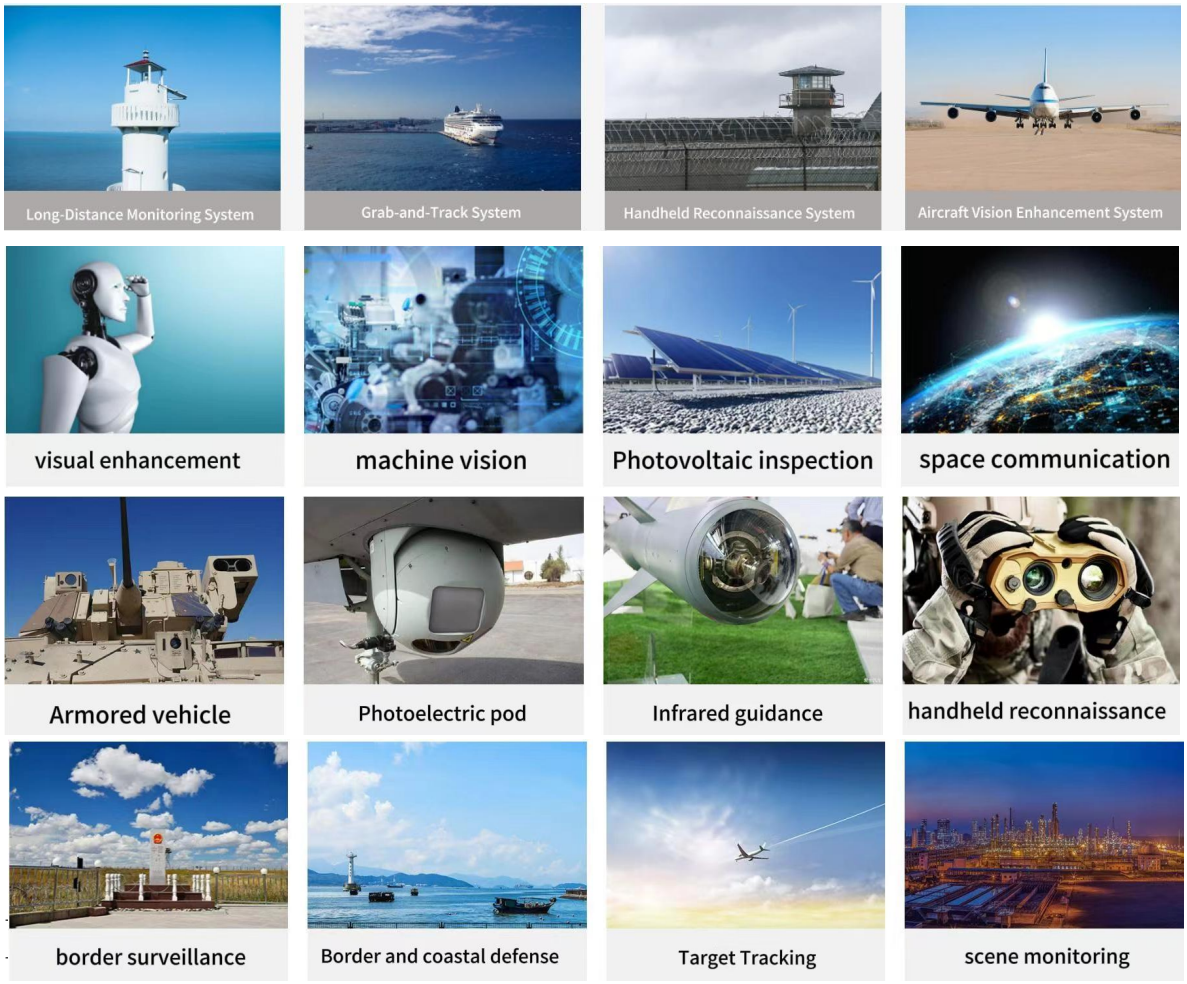

1. Working principle

The infrared core is a two-dimensional planar imaging infrared system used to detect the infrared radiation of target objects. It converts the temperature distribution of the target into a grayscale distribution through photoelectric conversion, electrical signal processing, and other methods, and outputs it in the form of video or images. The components and technologies of the infrared core include the infrared optical system, infrared focal plane detector, subsequent circuitry, and configuration software. The performance and design level of these four parts directly affect the imaging quality and stability of the infrared core.

(1) Infrared Optical System

This system collects the infrared radiation of the target and directs it onto the infrared detector, while using spectral and spatial filtering to suppress background interference. The design technologies include infrared optical design, optical path design, optical-mechanical structure design, and infrared optical system assembly technology.

(2) Infrared Focal Plane Detector

This component senses the temperature distribution of the target and converts infrared radiation into an analog signal.

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(3) Subsequent Circuitry

This processes the analog signals received from the detector and outputs them as video signals.

2. Parameter

Short-Wave Cooled Infrared Core	
Detector Type	Cooled Short-Wave Infrared Focal Plane Detector
Material	Mercury Cadmium Telluride (MCT)
Resolution	640x512
Pixel Size	15μm
Spectral Response Range	10±0.2μm~2.5+0.2μm
Quantum Efficiency	>70%1.0um~2.5μm
Operational Pixel Rate	≥99.5%
Noise Equivalent Temperature Difference (NETD)	≤50mK(25±3°C)
Response Nonuniformity	≤7%
Analog Video	PAL
Digital Video	HDMI(Optional)
	CameralLink (Optional)
	USB3.0
Control Interface	RS422
Cooling Method	Stirling Cooling
Startup Time	≤8min@25±3°C,≤12min@60±3°C
Power Supply	DC24V±1V
Operating Temperature	-40°C~+60°C
Storage Temperature	-55°C~+70°C
Humidity	Humidity 0%~85%RH
Weight	1.5kg
Dimensions	135mm*67mm*79mm
F#	2.0
Focal Length	50mm

3. Accessory List

Item No.	Item	Quantity	Optional/Standard
1	Cooled Short-Wave Infrared Core	1	Standard
2	Product Manual	1	Standard
3	Carrying Case	1	Standard
4	Cooling Core Configuration Software	1	Standard
5	Lens	1	Standard

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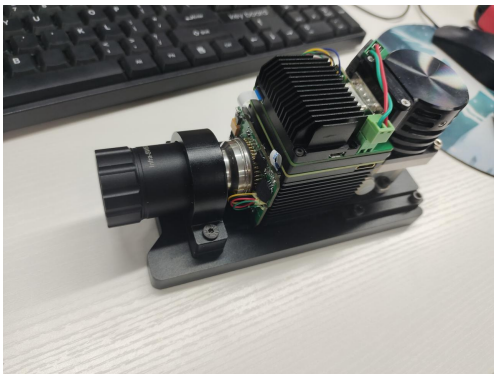
4. Physical Product



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