

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.

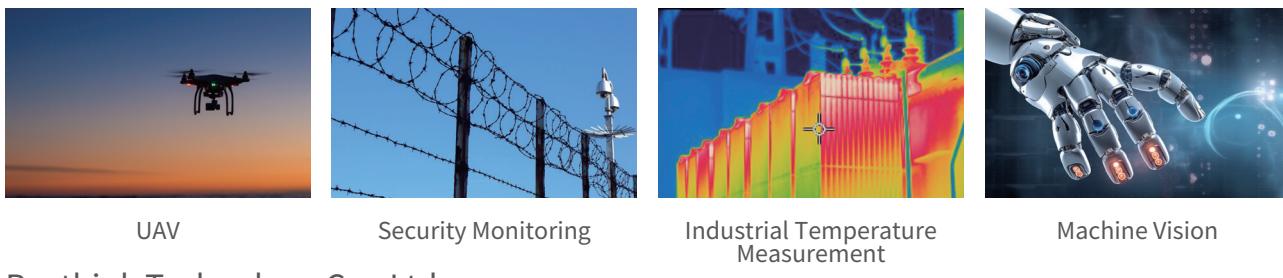


Specifications

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



Raythink Technology Co., Ltd.

Company Address: No.5 Wanshoushan Road, Fulaishan Street, Yantai Area of China (Shandong) Pilot Free Trade Zone Postal Code: 264000
Official Website: <http://www.raythink-tech.com> Service Email: sales@raythink-tech.com

The information is for illustrative purposes only. The pictures and technical specifications are subject to change without notice. Sample No.: O2024-Turing L640-2P001