



# 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.



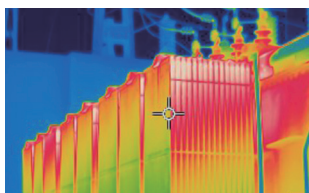
## Specifications

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	/	
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

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The information is for illustrative purposes only. The pictures and technical specifications are subject to change without notice. Sample No.: O2024-Turing F640-2P001