



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 $12\mu\text{m}$ VOx uncooled infrared detector; its resolution is 1280×1024 ; $\text{NETD} \leq 40\text{mK}@25^\circ\text{C}$; $F\#1.0$; it has high sensitivity.



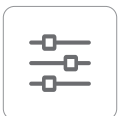
High Reliability

- Impact resistance reaching $1000\text{g}@0.3\text{ms}$.



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

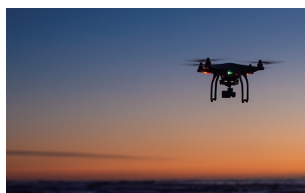
Applications



Outdoor Observation



Security Monitoring



UAV



Driving Assistance

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 A1280H-2P001