

WN2 Lite640

Uncooled Infrared Thermal Module

The WN2 Lite Series uncooled infrared modules feature a 640×512 resolution, utilizing a high-frame-rate $10 \mu\text{m}$ WLP detector and a second-generation self-developed LY300. The entire series is equipped with the shutterless algorithm that ensures smooth and non-choppy images. The next-generation infrared-specific NMX3.0 and IMX3.0 image processing algorithms can ensure delicate and clear image quality.

Designed for high performance in a compact and lightweight form, the WN2 Lite Series offers low power consumption and cost, meeting stringent SWaP (Size, Weight, and Power/Price) requirements.

The modules provide multiple digital interfaces and support flexible integration with various intelligent processing platforms. They are ideal for diverse applications, including industrial temperature measurement, outdoor integrated systems, and security surveillance.



60 Hz High
Frame Rate



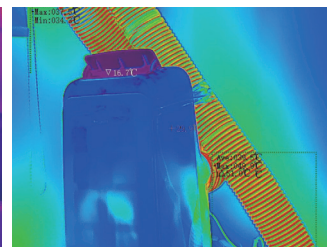
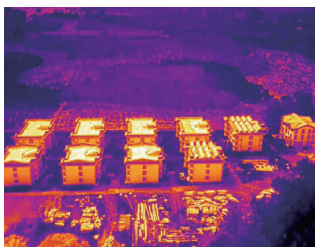
Standard
Shutter-Less Algorithm



Ultra
HD Image



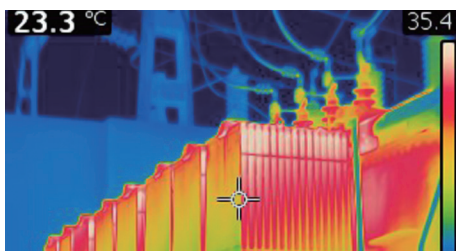
Higher Cost
Performance



Specifications

Technical Specifications		WN2 Lite 640
Overview	Detector Type	Vanadium Oxide Uncooled Infrared Focal Plane Detector
	Resolution	640×512
	Effective Frame Rate	30/60Hz
	Pixel Pitch	10μm
	Spectral Band	8~14μm
	Noise Equivalent Temperature Difference (NETD)	≤40mK@25°C,F#1.0,25Hz
	Thermal Time Constant	<12ms
Image Adjustment	Non-uniformity Correction	Shutter correction/Shutter-Less algorithm correction
	Brightness/Contrast Adjustment	0~100, optional
	Polarity/Palette	White-hot/Black-hot
	Digital Zoom	1.0~8.0× continuous zoom (step size: 0.1)
	Mirroring	Vertical/Horizontal/Diagonal
Temperature Measurement	Measurement Range	High-quality: -20°C ~ +160°C; Wide-range: 50°C ~ +600°C
	Measurement Accuracy (typ.)	Accuracy for range : -20°C~+150°C: ±2°C or ±2% Accuracy for range: 50°C~+600°C: ±5°C or ±3%
Electricity Parameters	Analog Video	PAL/NTSC
	Digital Video	DVP/BT656/ USB2.0/MIPI
	Communication Interface	UART/I2C/USB2.0
	Power Supply Input	5V
	Typical power consumption of USB output @25°C	Normal operation: < 0.7W; Shutter operation: < 1.23W
Physical Characteristics	Weight (without lens)	<4.3g
	Dimensions (without lens)	14.5mm×14.5mm×12mm
Environment Adaptability	Operating Temperature	-40°C~+80°C
	Storage Temperature	-50°C~+85°C
	Humidity	5%~95%, non-condensing
	Vibration	6.06g, random vibration, all axes
	Impact	80g, 4ms, final peak sawtooth wave, 3 axes and 6 directions

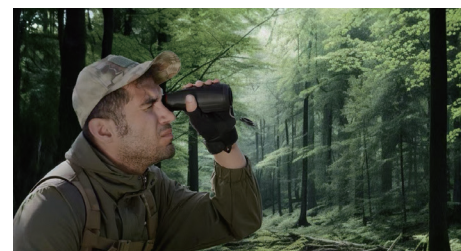
Application Scenarios



Industrial Temperature Measurement



Security Monitoring



Outdoor Integrated Applications

Company Profile

Raytron Microelectronics Co., Ltd. is a wholly-owned subsidiary of Raytron Technology Co., Ltd., providing global customers with infrared detectors, core modules, and industry solutions.

Our products are widely used in various fields, including infrared temperature measurement, night vision observation, machine vision, intelligent driving, Commercial Drone smart industry, security monitoring, Internet of Things, medical epidemic prevention and gas detection.

With the mission of "to create incremental value for customers with technological advancements", we are committed to leaving a name in the history of constantly expanding human perception capabilities.



Official Website



LinkedIn Official Account

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