RS1280
Flagship Thermal Camera

RS1280 is RayThink's first 1280×1024 high-performance, high-pixel thermal camera especially for scientific research. Equipped with a self-developed new-generation VOx infrared detector with a thermal sensitivity as low as 25mK, this device uses intelligent image algorithms and precise temperature measurement algorithms to provide clearer infrared images and higher measurement accuracy. Android operating system, intelligent applications & miscellaneous functions, and a 5.5-inch angle-adjustable display and rotatable handle bring a better experience meeting the ergonomics requirements.

Product Highlights

Clear Thermal Images, Precise Temperature Measurement

- 1280×1024 ultra-high infrared resolution, providing up to 2560×2048 high-definition super-resolution infrared thermal images.
- With a high thermal sensitivity, capable of distinguishing the temperature difference of 0.025°C, with high measurement accuracy and more delicate thermal images.

Various Lenses and Fast Focusing

- Full coverage of lens focal lengths: 45°, 25°, 12° and 50μm, 25μm macro lenses to match more business applications.
- Support multiple focusing methods such as manual focus, auto focus, laser focus, auto focus, and continuous auto-focusing.

AI Empowerment for Efficient Work

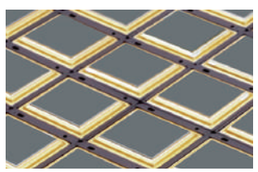
- Android system, more in line with users' habits and more convenient to operate.
- Support up to 35 analysis area settings to analyze more temperature details.
- 30Hz frame rate supports lossless compression of 16bit, meeting the needs of users for high frame rate and full-function secondary video analysis.

High-end Configuration, Easy to Work

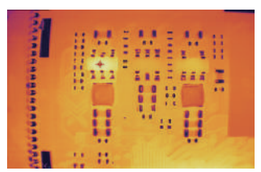
- The classic shape of the SLR camera and the design of the fixed lens offer a better operational experience.
- 5.5-inch flippable touch screen + OLED viewfinder of 1920×1080 for clearer field observation for users.
- Support OTA upgrade, QC3.0/PD fast charging protocol.
- Support Wi-Fi wireless screen mirroring and radiation video streaming and FTP/HTTP coverage of PCs and mobile devices.

Applications

Electric Routine Inspection



Scientific Research



Microelectronics

Nondestructive Testing

Specifications

Thermal Imaging	
Detector Type	12μm uncooled infrared detector
Infrared Resolution	1280×1024
Super Resolution	2560×2048
Spectral Band	7.5~14μm
Thermal Sensitivity (NETD)	＜25mK (25°C,F1.0)
Frame Rate	30Hz
Focal Length	Standard lens: 34.9mm; wide-angle lens: 19.8mm; telephoto lens: 72.9mm; macro lens (0.2×): 17.8mm; super macro lens (0.4×): 15.2mm
FOV	Standard lens: 25°×20°; telephoto lens: 12°×9.6°; wide-angle lens: 45°×36°
Spatial Resolution (IFOV)	Standard lens: 0.34mrad; telephoto lens: 0.17mrad; wide-angle lens: 0.6mrad; macro lens: One pixel corresponds to 50μm; super macro lens: One pixel corresponds to 25μm.
Focus Mode	Manual focus, electric micro focus, one-button center focus, automatic center focus,single-touch automatic focus, laser-assisted focus
Minimum Imaging Distance	Standard lens: 0.5m; telephoto lens: 2.3m; wide-angle lens: 0.2m; macro lens: 46mm; super macro lens: 13mm
Measurement Range	Standard: -20°C~+150°C (low temperature range), 150°C~800°C (medium temperature range). Optional: 400°C~1500°C, other ranges (high temperature range)
Measurement Accuracy	At 25°C normal temperature, the temperature measurement range is between 5°C~150°C, and the accuracy is ±1°C or ±1% of the reading (whichever is greater).At 25°C normal temperature, the temperature measurement range is below 1500°C, and the accuracy is ±2°C or ±2% of the reading.
Measurement and Analysis	
Display	5.5-inch LCD touch screen, resolution 1920×1080
Visible Light Camera	13 megapixels
Digital Zoom	1×~ 10×
Palettes	19 options
Image Mode	Infrared, visible light, PIP, dual-spectrum fusion
Temperature Width Stretch	Support
Measurement and Analysis	
Analysis Functions on the Device	Support up to 35 movable points, lines, frames, and polygonal areas (maximum and minimum temperature capture, average temperature measurement,environment variables, area alarm switch), and up to 5 preset modes
Laser Rangefinding	Support
Area Measurement	Support
Positioning	Support
Temperature Difference Analysis	Support
Trend Analysis	Supports temperature trend recording and analysis.
Image Freezing	Support
Analysis Report	PDF format. Support editing and template importing on the PC client.
Supporting Software	PC (Infrared Analysis Software) & Mobile Device (iOS/Android APP)
Image Storage	
Storage Medium	Standard 64GB Micro SD. Support SD, SDHC, and SDXC, up to 2TB
Text Notes	Support
Voice Notes	Support
Video Functions	
Radiate Infrared Video Recording	Support compressed full radiation video recording (.irv), up to 25Hz video recording.
Non-radiate Infrared or Visible Light Video Recording	Standard MP4 video recording
Radiate Infrared Video Stream Transmission	Analysis at about 25Hz on PC
Non-radiate Infrared Video Stream Transmission	RTSP H.264
Video Resolution	1920x1080
System Functions	
Intelligent Image Stabilization	Support
Intelligent Panoramic Stitching	Support
Intelligent Routine Inspection	Supported. General task package import and editing, standard and automatic naming of images
Non-radiate Infrared Video Stream Transmission	Support
Dual-Spectrum Video Recording	Simultaneous infrared video and visible light video recording, in MP7 format
Communication Protocol	Wi-Fi, Bluetooth, USB
Voice Control	Voice assistant, quick command recognition
Flashlight	Support
Others	
Microphone/Speaker	Support
Battery	9000mAh lithium-ion battery, field-replaceable, fast charging
Charging Mode	USB Type-C or desktop charger
Battery Life	Continuous operating time ⩾ 3 hours (depending on the actual environment and service conditions)
External Interface	USB3.0 Type-C, SD card, SIM card, Mini HDMI
Tripod Socket	UNC 1/4-20 interface for tripod
Operating Temperature	-15°C~+50°C
Operating Humidity	10%~95% (non-condensing)
Storage Temperature	-40°C~+70°C
IP Grade	IP54
Shock and Vibration	Shock: 25g (IEC 60068-2-27); vibration: 2.5g (IEC60068-2-6)
Weight and Dimensions	<1.7kg (with battery), 140×210×115mm
Authentication	CE/RoHS/CMA, etc.
Packing List	Thermal camera×1, manual, calibration certificate, quick operation guide, data download card, certificate of qualification, multi-country adapter, USB data cable×1, lithium-ion battery×3, portable bag, charging cradle×1, HDMI cable×1, hand strap, backpack strap, SD card, charging stand, standard lens.