Main Parameters

Model	S1280 Standard Edition
Detector Type	Uncooled infrared detector
Resolution of Detector	1280 × 1024
Super Resolution	5.1 megapixels
Lens Configuration	Wide-angle lenses 45° and 25° (standard), long-focus lens 12°, macro lenses (50μm and 25μm), and manual + autofocus lens, for automatic recognition once mounted
FOV	25° × 20°
Focusing Mode	Manual, electric, laser-assisted, continuous auto focus
IFOV (Spatial Resolution)	25°: 0.34mrad; 45°:0.6mrad; 12°: 0.17mrad; 50μm: 50μm for one pixel; 25μm: 25μm for one pixel
Minimum Imaging Distance	0.5m
Measurement Range	Standard: -20°C to +150°C (low temperature range), 150°C to 800°C (medium temperature range) Optional: 400°C to 1500°C\Others: (high temperature range)
Thermal Sensitivity	25mk
Wavelength Range	8-14μm
Frame Rate	30Hz
Remote Access and Control	TYPE-C/WIFI/hot spot, connection via the IRPT_TAS software on a PC and a mobile device (iOS/Android) for control; access to internal data in FTP mode
Flashlight	Available
Display Size	5.5-inch touch display, 1920 × 1080 resolution
Eyepiece	0.39-inch OLED display, 1920 × 1080 resolution
Visible Light Camera	4224 × 3136 (13 megapixel digital camera)
Palettes	19 palettes including iron red, gray, inverse iron red, inverse gray
Image Mode	Thermal imaging, PIP, thermal fusion, visible light
Temperature Scale	Automatic, manual, linear
Storage Medium	SD card, standard 64GB, hot plug, SD, SDHC, and SDXC supported, with a maximum extension capacity of 2TB
Image File Format	JPEG
Number of Images	8000
Text Note	Yes. Free text input, preset text, OCR recognition, and QR code scanning supported
Voice Note	Supported, with a maximum time length of 300s
File Naming	Yes. Free text input, OCR recognition, and QR code scanning supported
Radiation Infrared Video Recording	Compressed full radiation video recording (.irv) supported
Non-Radiation Infrared or Visible Light Video	Standard MP4 video recording
Radiation Infrared Video Stream	TYPE-C/WLAN connection to PC supported for real-time transmission of radiation infrared video streams
Non-Radiation Infrared Video Stream	RTSP
Communication Interface	TYPE-C, Wi-Fi, USB3.0, WiFi, Micro HDMI, Bluetooth
Video Output	HDMI, wireless screen mirroring
Analysis Software	PC (Infrared Analysis Software) & Mobile Device (iOS/Android APP)
Video Resolution	1920×1080
Measurement Accuracy	±1°C or ±1% of the reading (whichever is the larger) for the measurement range of 5°C to 150°C at the ambient temperature of 25°C; or ±2°C or ±2% of the readings for the measurement range below 1500°C at the ambient temperature of 25°C;
Alarm	Voice and image alarms
Positioning	Images + geolocation data. GPS, BDS, GLONASS, and BeiDou supported
Compass	Azimuth indication of digital magnetic compass supported
Analysis Report	PDF format. Template editing and import on the device
Laser	620–690nm, Class II, <1mW, laser pointer and laser rangefinding supported
Area Measurement	Supported
Analysis Functions on the Device	Up to 35 movable points, lines, frames, and polygonal areas (maximum and minimum temperature capture, average temperature measurement, environment variables, area alarm switch); up to 5 preset modes
Zooming In	1–15 times, continuously adjustable roller
Connecting Methods	Wi-Fi, Bluetooth, USB Type-C, HDMI
Dual-Spectrum Video Recording	Simultaneous infrared video and visible light video recording, in MP4 format
Microphone/Speaker	Available
Battery	4.2V, 9000mAh lithium-ion battery, field-replaceable, fast charging
Charging Time	Charged to 80% in 1 hour; fully charged in 2 hours
Charge Mode	Direct charging, desktop charging
Operating Time	Continuous operating time ≥ 3 hours (depending on the actual environment and service conditions)
Shoulder Strap	Available
Operating Temperature	-15°C~+50°C
Storage Temperature	-40°C~+70°C
External Interface	TYPE-C USB3.0, SD card, SIM card, Mini HDMI, tripod
IP Grade	IP54
Shock and Vibration	2G(IEC60068-2-6), 25G(IEC60068-2-29)
Weight and Dimensions (H × W × D)	<1.7kg (including battery), 14 × 21 × 11.5cm

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·The manual is for illustrative purposes only. The pictures and technical specifications are subject to change without notice.

Sample No.: DY2022Y001-S1280 Printed on: December 2022

InfiRay

Alkaid S1280

1.3 Megapixel Flagship Thermal Camera for Android

Explore the Ultimate Infrared World

Android

AI

Alkaid S1280, the flagship thermal camera, combined with VOx infrared detector independently developed by InfiRay, is our first 1280 × 1024 high-performance and portable infrared thermal camera.
Matrix IV image algorithm and AI-temp intelligent temperature measuring algorithm are adopted by the Alkaid S1280 to output clearer infrared images and more precise temperature measurement. A dedicated customized 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.

InfiRay

4 AI empowerment to achieve expert-level efficient workflow

- 30Hz frame rate supports lossless compression of 16bit, meeting the needs of users for high frame rate and full-function secondary video analysis;
- 35 analysis areas setting and 5 preset templates, convenient for users to analyze more temperature details on the display;

- Programmable buttons & intelligent workflow programming & AI voice assistant, meeting customers' personalized customization requirements;
- With the built-in Android operating system, users can customize the User Interface (UI) or customize the development of application scenarios as needed.

Lossless Compression | Video Recording | Image Analysis | Intelligent Process | Customized Development
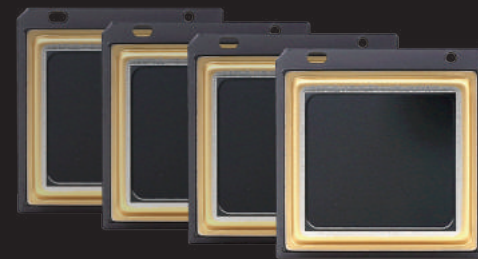
1 High resolution display with higher image quality

- InfiRay® new-generation ceramic package process with a smaller detector and lower power consumption;
- With a resolution of 1280 × 1024 and visible temperature distribution details;
- Multispectral fusion AI detail enhancement technology provides infrared heat maps of up to 2560 × 2048, enabling more detailed analysis of smaller or farther objects.

2 More accurate temperature measurement and wider temperature measurement range

- Thermal sensitivity (NETD) up to 25mK, measurement accuracy of ±1% with more accurate temperature measurement;
- Native 800°C can be extended to a wide temperature measurement range of 1,500°C, compliant with the most stringent requirements of scientific research, materials, metallurgy, and other industries;
- Automatic range switching simplifies the operation for customers in scenarios with rapid temperature changes.

5 Other considerate upgrades for easier operation

- Wi-Fi wireless screen mirroring and radiation video stream + both PCs and mobile devices supported by FTP/HTTP, supporting data transmission in various ways for uses;
- 5.5-inch flippable touch screen + OLED viewfinder of 1920 × 1080 for clearer field observation for users;
- OTA upgrade, charging protocol of QC3.0/PD, and GPS, simplify user operation and improve user experience;

- The gravity center of the lens is close to the gravity center of the device. No lens flip is required and only the screen flip is needed. The gravity center is stable during the screen flip, comfortable to hold;
- The classic shape of the SLR camera and the design of the fixed lens, with higher reliability and better meeting the ergonomics requirements.

Wireless Screen Mirroring | HD Video | Multiple Analysis | Preset Modes

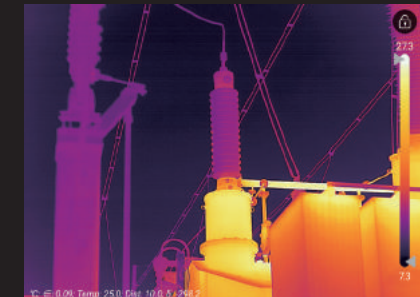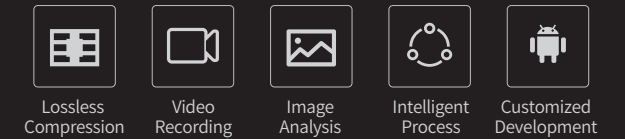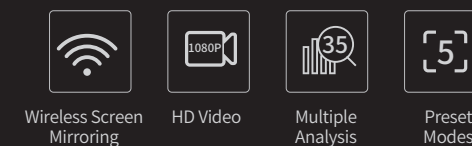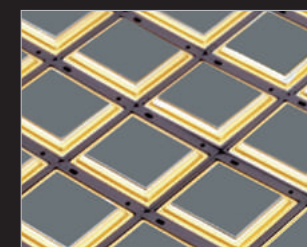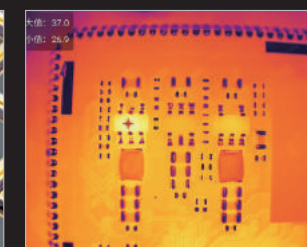## 3 Rich lens with accurate focusing and clear observation

- Spatial resolution (IFOV) of 0.17mrad (lens 12°), allowing users to see tinier image details;
- Iris diaphragm integrated lens, without the requirement of buying the additional high-temperature lens, can support temperature measurement of 1500°C, saving user cost and improving operation efficiency;
- Full coverage of focal length with FOV of 45°, 25°, and 12°; macro lens minimum to 25μm, suitable for observation regardless of distance and size, meeting the requirements of various industries such as power and scientific research;
- Focusing mode: Laser focus, auto focus, continuous auto focus, manual focus, and more are supported to maintain clear images for users during usage.

Application Fields

Electric Routine Inspection | Scientific Research | Microelectronics | Nondestructive Testing of Materials