Main Specifications

Model		T400	T630
Thermal Imaging Characteristics and Optical System	Detector Resolution	480×360	640×512
	Super Resolution	960×720	1280×1024
	Detector Type	Uncooled infrared detector, 12µm	
	Thermal Sensitivity/NETD	35mk	
	Wavelength Range	7.5~14 µm	
	Frame Rate	30Hz	
	Lens and FOV	Standard lens: 25°. Optional lens: wide-angle lens 45°; long-focus lens 14°; ultra-long lens 7°; macro lens 60µm; super macro lens 30µm manual＋autofocus lens (AF/MF), for automatic recognition once mounted	
	Focusing Mode	Manual, one-button center focus, automatic center focus, touch screen focus, laser-assisted focus	
	Spatial Resolution/iFOV	Standard: 0.92mrad; wide-angle: 1.71mrad Long-focus: 0.52mrad; ultra-long-focus: 0.27mrad；macro 60µm: one pixel corresponds to 60µm; super macro 30µm: one pixel corresponds to 30µm	Standard: 0.68mrad; wide-angle: 1.26mrad; long-focus: 0.38mrad; ultra-long-focus: 0.2mrad macro 60µm: one pixel corresponds to 60µm; super macro 30µm: one pixel corresponds to 30µm
	Minimum Imaging Distance	Ultra-long-focus: 4m; long-focus: 3m; standard: 0.4m; wide-angle: 0.2m; macro: 39mm; super macro: 19mm	
	Measurement Range	Low temperature range: -20℃~+150℃ High temperature range: 100℃~650℃ Automatic (optional: -20~1500℃)	
Image Display and Mode	Display Size	5-inch sunlight readable, OLED touch display; 1280×720 resolution, Gorilla explosion-proof glass	
	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, accurate	
Image Storage	Storage Medium	SD card, standard 64GB, hot plug, with a maximum extension capacity of 2TB	
	Text Note	Yes. Free text input, preset text, OCR recognition, QR code scanning, and voice-to-text input supported	
	Voice Note	Supported, with a maximum time length of 300s	
Video Recording and Transmission	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, for real-time transmission of radiation infrared video streams	
	Non-radiation Infrared Video Stream	RTSP H.264	
	Communication Interface	USB3.0, Wi-Fi, Bluetooth	
	Video Resolution	1280×720 pixels	
Measurement and Analysis	Measurement Accuracy	±2℃ or ±2% of the reading	
	Temperature Measurement Correction	Correction of screen emissivity, reflected background temperature, ambient temperature, atmospheric transmittance, and distance parameters	
	Positioning	GPS, BDS, GLONASS, or Beidou supported, with geographical location data overlaid on images	
	Analysis Report	PDF format. Template editing and import on the device	
	Laser Rangefinding	905nm, Class I, <10mW, laser pointer and laser rangefinding supported, HF rangefinder module, at the frequency of 1000Hz (20-20000Hz adjustable), with a range from 0.05m to 50m, an accuracy of ±1mm+50PPM, and anti-background light capability＞100K LUX	
	Area Measurement	Supported	
	Analysis Functions on the Device	Up to 15 movable points, lines, frames, circles, and polygons; up to 5 preset modes	Up to 20 movable points, lines, frames, circles, and polygons; up to 5 preset modes
	Temperature Difference Analysis	Supported	
	Trend Analysis	Temperature trend recording, display at 15-minute intervals, image capture and storage in the specified file, and image viewing in the device's library in secondary analysis mode	
	Image Freezing	Single frame	Single frame + full radiometric video streams
System Functions	Intelligent Routine Inspection	Supported. General task package import and editing, standard and automatic naming of images	
	Routine Inspection Record Self-inspection	Supported	
	Dual-Spectrum Video Recording	Simultaneous infrared video and visible light video recording, in MP4 format	
	Zooming In	1× ~ 10×	
	Connecting Methods	Wi-Fi, Bluetooth, Type-C	
	Flashlight	Available	
	Language	English, Japanese, Poland, Russian, Korean, Hungarian, Bap, German, French, Spain, Italy, Turkey, and Traditional Chinese	
Others	Microphone/Speaker	Available	
	Battery	10000mAh lithium-ion battery, field-replaceable, fast charging (certified)	
	Charge Mode	Direct charging, desktop charging	
	Operating Time	Continuous operating time ≥ 3 hours (depending on the actual environment and service conditions)	
	External Interface	TYPE-C USB3.0, SD card, SIM card, Mini HDMI, tripod	
	IP Grade	IP54，2G(IEC60068-2-6) 25G(IEC60068-2-29)	
	Weight and Dimensions (H × W × D)	1.3kg (including battery), 14.4×12.9×30.7cm (subject to actual situations)	
	Packing List	Device, lens, lithium-ion battery×2, charging socket, charger, charging cable, Bluetooth headset, SD card (64G), Type-C cable, lens hood, data download card, calibration certificate, certificate of qualification, hand strap, and lens cap	

InfiRay

Kaiyang Series

Expert-Level Thermal Camera T400/T630

Intelligent Functions

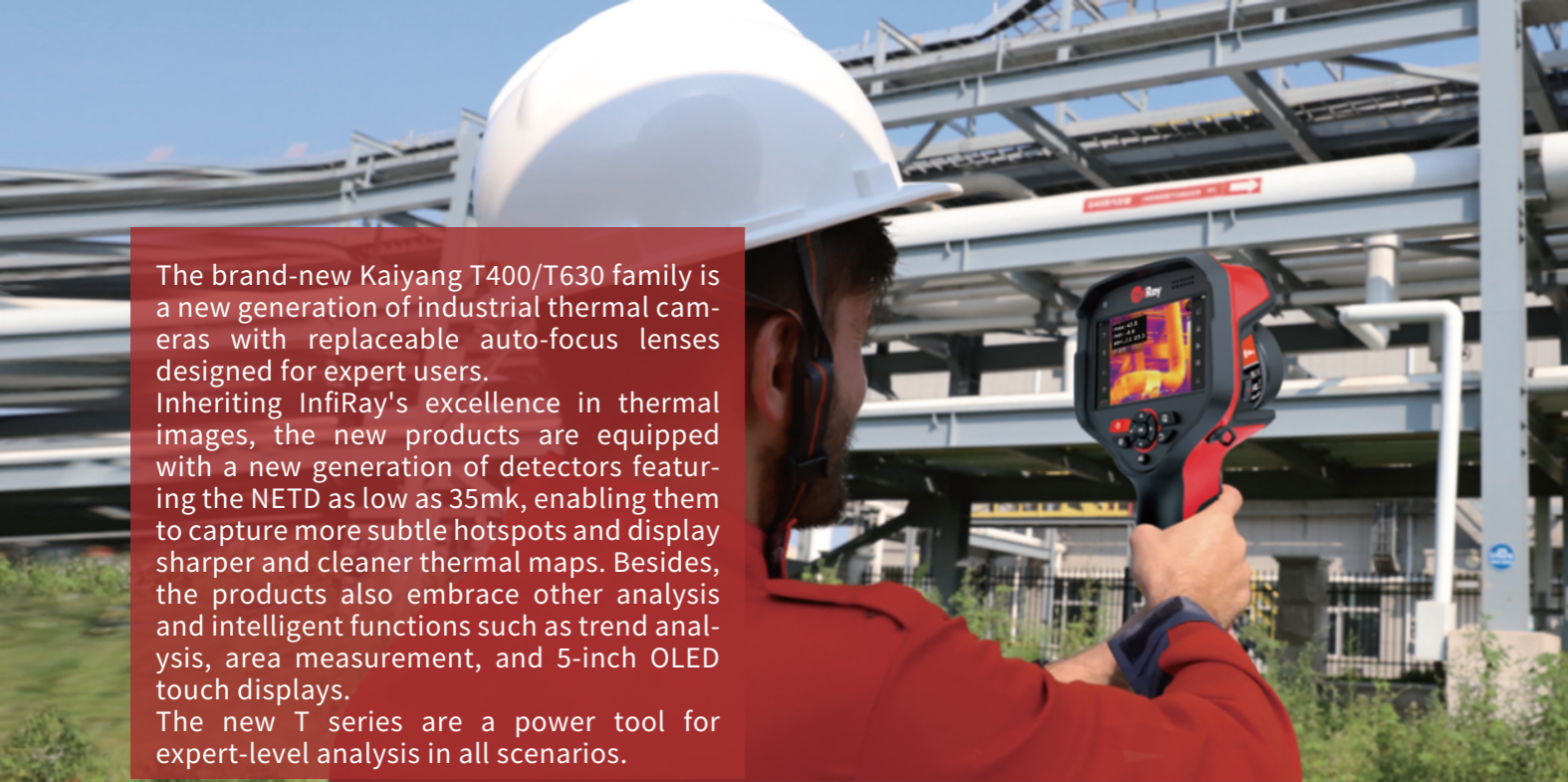## IRay Technology Co., Ltd.

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· The manual is for illustrative purposes only. The images and technical specifications are subject to change without notice.
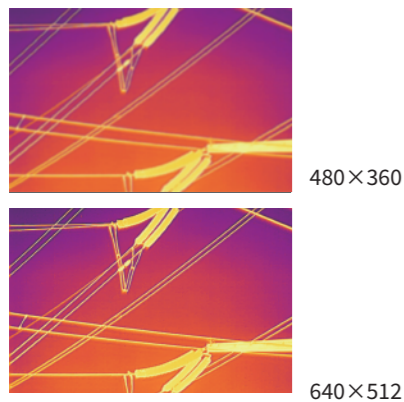
Distributors authorized by InfiRay:

The brand-new Kaiyang T400/T630 family is a new generation of industrial thermal cameras with replaceable auto-focus lenses designed for expert users.

Inheriting InfiRay's excellence in thermal images, the new products are equipped with a new generation of detectors featuring the NETD as low as 35mk, enabling them to capture more subtle hotspots and display sharper and cleaner thermal maps. Besides, the products also embrace other analysis and intelligent functions such as trend analysis, area measurement, and 5-inch OLED touch displays.

The new T series are a power tool for expert-level analysis in all scenarios.

1 HD display, accurate temperature measurement, and strong thermal imaging performance

• HD resolution, clear picture quality

Kaiyang T Series includes two models, T400 and T630, which are equipped with 12μm VOx uncooled infrared detectors developed by InfiRay. The resolution is 480×360/640×512, supporting AI super-resolution to achieve a clearer presentation of smaller or more distant objects.

480×360

640×512

• High thermal sensitivity detector, accurate temperature measurement

The thermal sensitivity NETD is as low as 35mK, capable of distinguishing a temperature difference of 0.035℃, capturing even more subtle hot and cold spots.
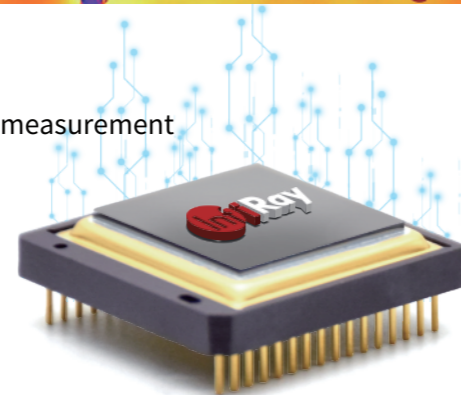
AITEMP

• AI-based new image algorithm

Driven by a brand new CPU, the product uses Matrix IV—the fourth-generation infrared image processing algorithm—to generate AI-based thermal images, making object details clearer and images cleaner.

MATRIXIV

min: 14.6
Pγ04 max: 169.9
Q03 max: 170.9
P01 max: 80.0

2 Multi-lens options for fast, precise focusing

• It offers multi-lens options and flexible adaptation to multiple scenarios; an integrated variable diaphragm lens supports 1500℃ temperature measurement without replacing the lens, saving user costs and being convenient and efficient.
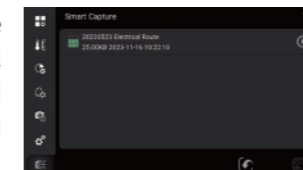
Lens Type	FOV	IFOV	Focal Length	Minimum Imaging Distance	Aperture (F)
ULtra-long-focus Lens	7°×5.6°	0.2mrad	60.9mm	4m	1.0
Long-focus Lens	14°×11.2°	0.38mrad	31.5mm	3m	1.0
Standard Lens	25°×20°	0.68mrad	17.7mm	0.4m	1.0
Wide-angle Lens	45°×36°	1.26mrad	9.5mm	0.2m	1.0
Macro Lens	0.2×	One pixel corresponds to 60μm	13mm	39mm	1.0
Super Macro Lens	0.4×	One pixel corresponds to 30μm	14.8mm	19mm	1.0

3 Functional upgrade, precision manufacturing

• It supports up to 20 points/lines/areas and 5 preset modes, making it convenient for users to analyze more temperature details in real time.

• It comes with a built-in laser rangefinder module, supporting laser rangefinding and area measurement. The 5-inch OLED touch display has a resolution of 1280×720 pixels, with Gorilla explosion-proof glass. The thermal image colors and levels are more vivid, and it supports Type-C direct charging.

Visible light
Laser rangefinder
Infrared light
Type-C direct charging
OLED touch display

4 Powerful intelligent analysis, efficient temperature measurement

• The Android smart system provides system-level assurance for the expansion and customization of intelligent functions.
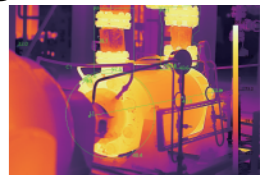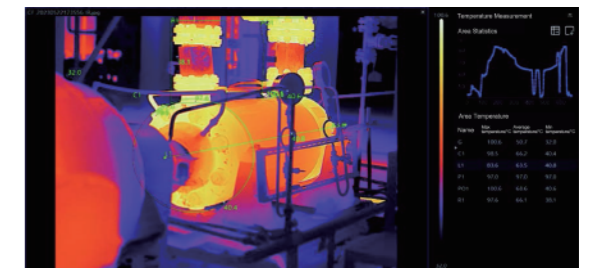
• It supports intelligent routine inspection, enabling general task package import and editing, and standard and automatic naming of images.

• Support custom isotherms: The upper and lower limits of the isotherm temperature or the full-frame threshold can be customized to highlight key temperature ranges or areas.

5 Professional software empowers your business

• Professional thermal imaging analysis can be carried out through mobile apps, PC clients and other multi-platform software to realize advanced analysis of pictures/videos in online and offline modes, releasing hardware capabilities and empowering the business;
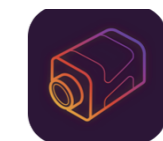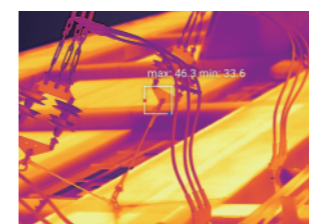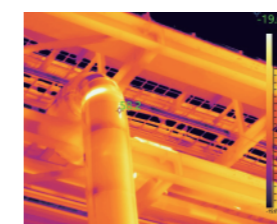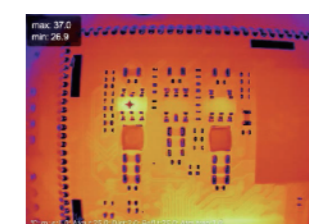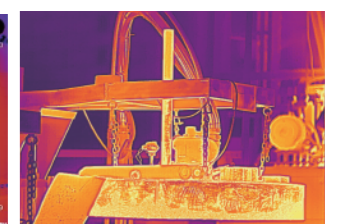
TAS app

TAS client

Application Fields

Electric Routine Inspection

Chemical O&M

Electronic and Electrical R&D

High Temperature Material Monitoring