Guide

APEX VISION

Thermal

High Frame Rate Superior Imaging

PT II Series HD High-Performance Thermal Camera

Introduction

PT II series Flagship Edition Megapixel Thermal Imager incorporates a new generation of self-developed uncooled infrared focal plane detector, achieving a resolution of up to 1280×1024. Its exclusive A/M-Focus manual/automatic hybrid focusing system delivers superior image quality and enhanced operational flexibility. The PT Series has undergone comprehensive upgrades in hardware configuration, software systems, and user experience, aiming to establish a new industry benchmark.
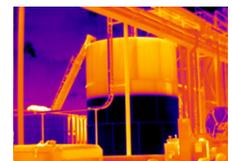
Features

- APEXVISION for ultra-clarity & precision.
- Fast charging supported — 90% charge in just 1 hour.
- PerIRVision image stitching technology.
- Optional Dual-FOV Lens with instant wide/narrow FOV switching.
- An optional temperature range to 2500℃ for more applications.
- Observation of 36μm objects through a macro lens.
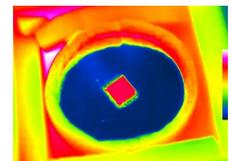
Applications

Power

Oil and Gas Maintenance

Building Inspections

Research and Development

Specifications

Product model	PT450S	PT650S	PT850S	PT870S
Imaging and optics				
Core technology	Equipped with full ApexVision S1 system architecture: Detector ApexCore S1 + Platform Nexus 1.0 + Algorithm SharpIR 2.0			
Detector type	VOx, 7.5 to 14µm			
Infrared resolution	480×360@12µm	640×512@12µm	1024×768@12µm	1280×1024@12µm
Super resolution	Yes, Upgrade to 960×720	Yes, Upgrade to 1280×1024	Yes, Upgrade to 2048×1536	Yes, Upgrade to 2560×2048
NETD	15mK			
Frame rate	50Hz/9Hz			
Focal length	12.94mm	17.6mm	27.7mm	35mm
Field of view	25°×20°			
IFOV	0.91mrad	0.68mrad	0.43mrad	0.34mrad
Min. object distance	0.3m			
D:S	1099:1	1471:1	2326:1	2941:1
Focusing mode	Manual / Automatic / Touch autofocus / Continuous autofocus			
Digital zoom	1x to 35x	1x to 40x	1x to 50x	
Measurement and analysis				
Measurement range	Support auto-switching: -40°C to 150°C, 0°C to 650°C, Optional 400°C to 2500°C (High temperature lens is required)		Support auto-switching: -40°C to 150°C, 0°C to 800°C, Optional 400°C to 2500°C (High temperature lens is required)	
Measurement accuracy	±1°C or ±1%, whichever is greater			
Analyzed target	25 in total (Spot/Line/Area)	30 in total (Spot/Line/Area)	35 in total (Spot/Line/Area)	
Alarm	Full screen temperature threshold alarm (Image, Voice, Color and Flash)			
Others	Isothermals, Smart Stroke, Intelligently calculate the area, Color Highlighting			
Image display				
Display screen	5.5" LCD, touch screen, 1920×1080			
Eyepiece	OLED screen, 1920×1080			
Image mode	IR, VIS, MIF, PIP			
Color palettes	15: White Hot, Iron Red, Arctic, Rainbow 2, Hot Iron, Rainbow 1, Fulgurite, Medical, Tint, Black Hot, Blue Hot, Sepia, Green Hot, Ice and Fire, Amber; Customized			
Image adjustment	Level span mode: Automatic, Semi-automatic, Manual, Local dimming			
Digital camera	Dual visible light, up to 13MP		Dual visible light, up to 16MP	
Functions				
Laser	Laser indication; Laser ranging 0.1m to 35m			
Recording function	Photo (image stitching) and Video (infrared & visible light)			
Cloud Services	Available			
Others	Customized physical button, NFC connection, OTA update			
Storage and transmission				
Storage media	Built-in (64 GB) and external SD card (128 GB and up to 256 GB)			
Image storage	JPG with temp info			
Video storage	MP4 format (without temp info) can be used to record audio synchronously; Irgd (with temp info)			
External interface	USB-C, DC (12V) , SD card slot, Micro HDMI, Tripod socket			
Wi-Fi	Yes, it can be connected to the mobile terminal for image and real-time video transmission			
Cellular network	5G module (optional)			
Bluetooth	Bluetooth 5.0, support image transmission (only for Android)			
Power system				
Battery type	Lithium-ion rechargeable battery			
Operating time	4.5 hours	4 hours	3.5 hours	
Environmental parameters				
Working temperature	-20°C to 50°C			
IP rating	IP54			
Physical parameters				
Hardware	Wi-Fi, Illuminator, Microphone, Speaker, Electronic Compass, GPS, Status screen			
Weight	1.73kg (with standard lens and battery)		1.78kg (with standard lens and battery)	
Size	191×171×118mm			
Software kit	PC: ThermoTools; Mobile: FocusIR (iOS/Android)			
Standard	A device (with lens), Lens front and back cover, Lithium-ion battery (2 pcs), Desktop charger, Power adapter, Adapter plug, USB-A to USB-C cable, USB-C to Ethernet Adapter, Ethernet cable, Micro HDMI to HDMI cable, SD card (128 GB), Wrist strap, Shoulder strap, Safety box, Carrying bag, Quick Start Guide, Warranty Card, Inspection Report, Calibration Certificate			
Options	Optional lenses: Wide-angle (45°), Medium Telephoto (15°), Telephoto (7°), TwinView DFOV (25°+15° / 25°+45°), High-temperature, Macro; Tripod, Bluetooth earphone, 5G module			