



World's First Portable Thermal
Camera with MP Resolution

PT Series

HD High-Performance Thermal Camera



Introduction

PT Series is the world's first portable thermal camera with MP-level Infrared Resolution. Equipped with the self-developed 1280x1024 IR detector, this camera has the A/M-Focus manual and auto focusing system to provide much more crisp images. Advanced hardware, software and exceptional experience ensure it is the flagship in this industry.

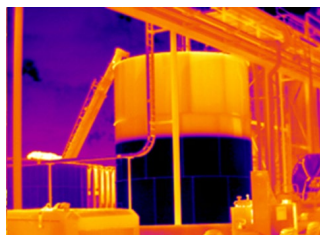
Features

- Up to 1280x1024 IR resolution
- ContFocus intelligent and continuous autofocus model
- An optional temperature range to 2500°C for more applications
- Observation of 36μm objects through a macro lens
- IR video with temperature information at 50 Hz
- Optional dual-FOV lens for near and far detection
- OTA firmware upgrade to keep the device up-to-date
- Fast charging supported — 90% charge in just 1 hour

Applications



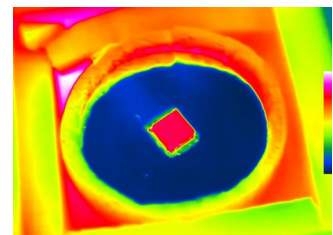
Power



Oil and Gas Maintenance



Building Inspections



Research and Development

Specifications

Product model	PT450	PT650	PT850	PT870
Imaging and optics				
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	30mK		25mK	
Frame rate	50Hz/9Hz			
Focal length	12.9mm	17.6mm	27.7mm	35mm
Field of view	25°×19°			
IFOV	0.91mrad	0.68mrad	0.43mrad	0.34mrad
Min. object distance	0.3m			
D:S	1095:1	1466:1	2346:1	2916:1
Focusing mode	Manual / Automatic / Touch autofocus / Continuous autofocus			
Digital zoom	1.1x to 35x	1.1x to 40x	1.1x to 50x	
Measurement and analysis				
Measurement range	Support auto-switching: -40℃ to 150℃, 0℃ to 650℃, Optional 400℃ to 2500℃ (High temperature lens is required)		Support auto-switching: -40℃ to 150℃, 0℃ to 800℃, Optional 400℃ to 2500℃ (High temperature lens is required)	
Measurement accuracy	±1℃ 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 and flash)			
Others	Isothermals, Smart Stroke, Intelligently calculate the area			
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			
Digital camera	Dual visible light, up to 13MP		Dual visible light, up to 16MP	
Functions				
Laser	Laser (Indication, 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			
WIFI	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℃ to 50℃			
IP rating	IP54			
Physical parameters				
Hardware	Illuminator, Microphone, Speaker, Electronic Compass, GPS, Status screen			
Weight	1.86kg (with battery)			
Size	191×171×118mm			
Software kit	PC: ThermoTools; Mobile: Thermography (iOS/Android)			
Standard	A device (with lens), Lens front and rear caps, Lithium-ion batteries (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, Carrying bag, Safety box, Quick start guide, Data download card (analysis software & user manual), Factory inspection report, Calibration certificate, Warranty card			
Options	Optional lenses: Wide-angle (45°), Medium telephoto (15°), Telephoto (7°), DFOV (25°+15°/25°+45°), High Temp., Macro; Tripod, Bluetooth earphone, Lab stand, 5G module			

* Product performance is based on testing in a controlled laboratory environment. Your test results may vary due to several external and environmental factors. All specifications are subject to the actual product. The manufacturer reserves the right to modify technical specifications without notice or liability to you.

Optional lens information list

Model	PT450	PT650	PT850	PT870
Standard Lens (25°)				
Focal length	12.94mm	17.6mm	27.7mm	35mm
FOV	25°×19°	25°×19°	25°×19°	25°×19°
IFOV	0.91mrad	0.68mrad	0.43mrad	0.34mrad
Min focus distance	0.3m	0.3m	0.3m	0.3m
Medium Telephoto (15°)				
Focal length	21.6mm	29mm	46.4mm	58mm
FOV	15°×11°	15°×11°	15°×11°	15°×11°
IFOV	0.55mrad	0.41mrad	0.26mrad	0.21mrad
Min focus distance	0.5m	0.5m	0.5m	0.5m
Telephoto (7°)				
Focal length	47.8mm	63.5mm	106.6mm	133mm
FOV	7°×6°	7°×6°	7°×5°	7°×5°
IFOV	0.25mrad	0.19mrad	0.11mrad	0.09mrad
Min focus distance	5m	5m	5m	5m
Wide Angle (45°)				
Focal length	7.2mm	9.7mm	15.6mm	19.5mm
FOV	45°×34°	45°×34°	45°×34°	45°×34°
IFOV	0.91mrad/0.55mrad	0.67mrad/0.41mrad	0.43mrad/0.26mrad	0.34mrad/0.21mrad
Min focus distance	0.15m	0.15m	0.15m	0.15m
DFOV Lens (Standard + Medium telephoto lens)				
Focal length	12.94mm/21.6mm	17.6mm/29mm	27.7mm/46.4mm	35mm/58mm
FOV	25°×19° / 15°×11°	25°×19° / 15°×11°	25°×19° / 15°×11°	25°×19° / 15°×11°
IFOV	0.91mrad/0.55mrad	0.67mrad/0.41mrad	0.43mrad/0.26mrad	0.34mrad/0.21mrad
Min focus distance	0.3m/0.5m	0.3m/0.5m	0.3m/1.5m	0.3m/1.5m
DFOV Lens (Standard + Wide-angle lens)				
Focal length	7.2mm/12.94mm	9.7mm/17.6mm	15.6mm/27.7mm	19.5mm/35mm
FOV	45°×34° / 25°×19°	45°×34° / 25°×19°	45°×34° / 25°×19°	45°×34° / 25°×19°
IFOV	1.63mrad/0.91mrad	1.19mrad/0.69mrad	0.77mrad/0.43mrad	0.60mrad/0.35mrad
Min focus distance	0.15m/0.3m	0.15m/0.3m	0.15m/0.5m	0.15m/0.5m
Macro Lens				
Working distance	25.1mm	33.5mm	26.8mm	33.5mm
Magnification	3X	3X	3X	3X
Minimum Imaging Distance	100mm	100mm	100mm	100mm
Spatial Resolution (IFOV)	96.0μm	72.0μm	45.0μm	36.0μm
High Temp				
FOV	25°×19°	25°×19°	25°×19°	25°×19°
Temp Measurement Range	400~2500°C	400~2500°C	400~2500°C	400~2500°C

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