

HP-ZS50-TVC Series

Gyro Image Stable EO/IR Caeras



*The picture is for reference only, the appearance of the product is subject to the actual production

System Overview

This series Long Range Thermal Imaging Camera products are based on the latest 7th generation uncooled infrared technology and with continuous zoom infrared optical technology. It also equipped with high resolution daylight camera with defog function for long distance daytime details observation. The camera can be updated to 0.02° /s for drone tracking and optional for 2-axis gyro-image stabilization functions on the application of ship/boat/vehicle mounted.

Technical Specification

Thermal Camera

Image Sensor (LWIR)	Vox Detector
Image Sensor (MWIR)	Cooled Focal Plane Array (FPA) MCT HgCdTe detector
Pixel Size	17μm for LWIR / 12μm for MWIR
Thermal Sensitivity (NETD)	≤35mk (LWIR) / ≤20mk (MWIR)
Spectral Range	7 ~ 14μm (LWIR) / 3.7 - 4.8μm (MWIR)
Effective Pixels	640(H)x512(V)
Pseudo Color	16 pseudo color and B/W, B/W inverse
AGC	Support
Digital Zoom	8X
Strong Light Protect	Support
Temp Correction	Thermal imaging clarity is not affected by temperature
Lens Servo	Support lens preset, focal length return and location
Azimuth Information	Support angle real-time return and positioning
Parameter Setting	OSD Menu Remote Call Operations.
Life Index Recording	Working/shutter times, ambient/sensor temperature

- 384x288, 640x512 thermal sensor
- 105/120/155/190/230/300mm uncooled thermal lens
- 300/450/660/800/1100mm cooled thermal lens
- Max 1000mm EO daylight cameras
- IP66 and - 40 °C low temperature resistance

Thermal Lens

Focal Lens	21-105mm; 30-120mm; 31-155mm; 38-190mm 22-230mm; 20-300mm; 22~450mm;30~660mm; 40~800mm; 90~1100mm
FOV (LWIR, 17μm)	21-105mm: 30°x23°~6.2°x4.6° 30-120mm: 20°x15°~5°x3.8° 31-155mm: 20°x15°~4°x3° 38-190mm: 17.6°x13.2°~3.5°x2.6° 22-230mm: 28°x21°~2.7°x2° 20-300mm: 30.4°x24.6°~2.1°x1.6°
FOV (MWIR, 15μm)	30~300mm: 18.2°x14.6°~1.8°x1.5° 22~450mm: 24.6°x19.8°~1.2°x1.0° 30~660mm: 18.2°x14.6°~1.8°x1.5° 40~800mm: 13.6°x11°~0.7°x0.51° 90~1100mm: 6.1°x4.9°~0.5°x0.4°
Effective Distance (Vehicle: 2.3x2.3m)	21-105mm: 8.6km (D); 2.4km (R); 1.18km (I) 30-120mm: 10km (D); 2.8km (R); 1.3km (I) D: Detection R: Recognition I: Identification
Effective Distance (Human: 1.8x0.5m)	21-105mm: 3.4km (D); 1.7km (R); 0.9km (I) 30-120mm: 4km (D); 2km (R); 1km (I) D: Detection R: Recognition I: Identification
Drone Tracking Distance (RCS=0.01m ²)	105mm: 800m; 120mm: 900m; 155mm: 1km 190mm: 1.3km; 230mm: 1.6km; 300mm: 2km 450mm: 2.5km 660mm: 3km 800mm: 3.5km 1100mm: 5km

Visible Camera

Sensor	180/240/330mm: 1/2.8" Star Level CMOS 500/860/1000/2000mm: 1/2.8" Star Level CMOS
Resolution	1920(H)x1080(V)
Frame Rate	32Kbps~16Mbps, 60Hz
Min. Illumination	0.0005Lux (Color), 0.0001Lux (B/W)
SD Card	Support
Defog	Support SDE digital image processing
BLC/WDR/HLC	Yes
AGC	Support
Digital Zoom	16X

Visible Lens

Focal Lens	5.5~180mm 32X 6.5~240mm 36X 8~320mm 40X 8~500mm 62X 11~860mm 83X 12~1000mm 83X
Image Stabilization	Support
Focus Control	Manual/Auto

PTZ

Patrol	16*Patrol Route, 256 Preset for each route
Rotation	Pan: 0~360°, Tilt: -90~+90°
Speed	Pan: 0.01~60°/S, Tilt: 0.01~60°/S
Preset	3000
Accuracy	0.02°
Gyro	Accuracy-2mrad (RMS), two-axis gyro stable, shake ≤ ± 10°

Interface

Ethernet	RS-485, RS-232, RJ45
Protocol	IPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS, NTP, RTSP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE, ONVIF
Power	DC48V

Environmental

Operate Temp	-25°C ~ +55°C (-40°C optional)
Storage Temp	-35°C ~ +75°C
Humidity	<90%
Ingress Protect	IP66
Housing	PTA t coating, Seawater corrosion resistance
Anti-fog/salty	PH 6.5~7.2
Power	150W (Peak)

Video

Thermal Resolution	1920×1080; 1280×1024; 1280×960; 1024×768; 1280×720; 704×576; 640×512; 640×480; 400×300; 384×288; 352×288; 352×240
Visible Resolution	2592×1520; 2560×1440; 1920×1080; 1280×1024; 1280×960; 1024×768; 1280×720; 704×576; 640×512; 640×480; 400×300; 384×288; 352×288; 352×240
Record Rate	32Kbps~16Mbps
Audio encoding	G.711A/ G.711U/G726
OSD settings	Support OSD display settings for channel name, time, gimbals orientation, field of view, focal length, and preset bit name settings

Smart

Fire Detection	threshold 255 levels, targets 1-16 can be set, hot spot tracking
AI Analysis	Support intrusion detection, boundary crossing detection, entering/leaving area detection, motion detection, wandering detection, people gathering, fast moving, target tracking, items left behind, items taken; people/vehicle target detection, face detection; and support 16 area settings; support intrusion detection people, vehicle filtering function; support target temperature filtering
Auto-tracking	Single/multi scene tracking; panoramic tracking; alarm linkage tracking
AR Fusion	512 AR intelligent information fusion
Distance Measure	Support passive distance measurement

Order Information

ZS50-TVC6511D-1930WZ	Thermal: 21~105mm, 640x512 Visible: 2mp, 5.5~180mm, for drone tracking
ZS50-TVC6516D-2132WZ	Thermal: 31-155mm, 640x512 Visible: 2mp, 8~320mm, for drone tracking
ZS50-TVC6516D-2132WZ	Thermal: 31-155mm, 640x512 Visible: 2mp, 8~320mm for drone tracking
ZS50-TVC6516-2132WZ	Thermal: 31-155mm, 640x512 Visible: 2mp, 8~320mm for drone tracking
ZS50-TVC61023D-2150WZ	Thermal: 22-230mm, 640x512 Visible: 2mp, 8~500mm for drone tracking
ZS50-TVC61030D-2150WZ	Thermal: 30-300mm, 640x512 Visible: 2mp, 8~500mm for drone tracking
ZS50-CTVC62245D-2186WZ	Thermal: 22~450mm, 640x512 Visible: 2mp, 11~860mm for drone tracking
ZS50-CTVC62245-2186WZ	Thermal: 22~450mm, 640x512 Visible: 2mp, 11~860mm for drone tracking
ZS50-CTVC63066D-2186WZ	Thermal: 30~660mm, 640x512 Visible: 2mp, 11~860mm for drone tracking
ZS50-CTVC64080D-21100WZ	Thermal: 40-800mm, 640x512 Visible: 2mp, 12~1000mm for drone tracking
ZS50-CTVC690110D-21100WZ	Thermal: 90-1100mm, 640x512 Visible: 2mp, 12~1000mm for drone tracking