



Defender Ultra V50 is a 4MP 775mm long-range bispectral VGA 225mm thermal sphere positioning camera, specifically designed for ultra-long-range target surveillance. This system is equipped with advanced imaging systems, exceptional optical image stabilization, and robust tracking capabilities, ensuring reliable surveillance in the most challenging environments.

Features

Ultra Long-Range Detection

- Equipped with a 4MP 15-775mm 52x optical zoom visible camera and a VGA 25-225mm 9x optical zoom thermal imaging camera, ensuring reliable surveillance in the most challenging environments.
- Bispectral imaging of visible light and infrared thermal imaging enables all-weather, all-time target monitoring, regardless of lighting conditions.

Intelligent Functions

- AI-based intelligent detection, recognition, and tracking of targets for improved monitoring efficiency.
- AI-ISP technology optimizes image quality, enhancing low-light performance and dynamic range, detail and color reproduction.

Easy Integration & Maintenance

- Single IP integration of multi-spectral systems for simplified deployment.
- Supports ONVIF standard protocols for compatibility with various surveillance systems.
- Modular Design: Facilitates debugging, maintenance, and upgrades.

Excellent PTZ System

- **Military-grade Design:** Adopting a high-strength aluminum alloy housing and spherical windproof design to ensure stable operation in harsh environments.
- **Wide Speed Range:** Maximum rotation speed of 120°/s, minimum rotation speed of 0.01°/s, meeting the needs of different surveillance scenarios.
- **High-precision Control:** Photoelectric coaxial encoder and servo drive achieve an ultra-high preset position accuracy of 0.05°, ensuring accurate positioning.
- **Powerful Movement:** Rare earth permanent magnet motor provides high torque and high speed, enabling quick response to control commands.
- **Rich Data Feedback:** Real-time feedback of azimuth, elevation angle, focal length, focus value, and other information, facilitating remote control and status monitoring.

Technical Specs

Visible Camera				
Image Sensor	1/1.8" STARVIS progressive scan CMOS			
Resolution	2688 x 1520, 4MP			
Lens	15-775mm, 52x motorized zoom, F2.8-8.2 Field of view: 29.1°x 16.7°(H x V)-0.5°x 0.3°(H x V) Near focus distance: 1-10m Zoom speed: <7s(Wide-Tele) Focus modes: Semi-auto/Auto/Manual/One-push			
Min. illumination	Color: 0.01Lux, B/W: 0.001Lux, AGC&AI-NR ON, F2.8			
Electronic Shutter Speed	1/1-1/30000s			
Noise Reduction	2D/3D/AI-NR			
Image Stabilization	EIS&OIS			
Day/Night	Auto(ICR)/Manual			
White Balance	Auto/Manual/ATW/Indoor/Outdoor/Sodium Lamp/Streetlight/Natural			
WDR	120dB			
Defog	Optical (NIR) + Digital			
Anti-heatwave	Auto/Manual			
Digital Zoom	16x			
DORI Ratings*	Detection	Observation	Recognition	Identification
	12320m	4889m	2464m	1232m

**The DORI standard (based on the IEC EN62676-4:2015 international standard) defines different levels of detail for detection (25PPM), observation (62PPM), recognition (125PPM), and Identification (250PPM). This table is for reference only and performance may vary depending on the environment.*

Thermal Camera			
Image Sensor	Un-cooled FPA Vanadium Oxide microbolometer Pixel pitch: 12µm Spectral range: 8-14µm Sensitivity (NETD): <50mK		
Resolution	640 x 512, VGA		
Lens	25-225mm, 9x motorized zoom, F/0.95-F/1.5 Field of view: 17.46°x 14.01°(H x V)-1.96°x 1.56°(H x V) Zoom speed: <5s(Wide-Tele)		
Focus Modes	Semi-auto/Manual/One-push		
Color Modes	White hot, Black hot, Fusion, Rainbow, etc. 20 user-selectable		
Image Stabilization	EIS		
Digital Zoom	8x		
DRI Ratings*	Detection	Recognition	Identification
Human (1.80 m x 0.55 m)	9375m	2344m	1172m
Vehicle (4.0 m x 1.40 m)	28750m	7188m	3594m

**The DRI distances are calculated according to Johnson criteria: detection(1.5 or more pixels), recognition(6 or more pixels), identification(12 or more pixels). This table is for reference only and performance may vary depending on the environment.*

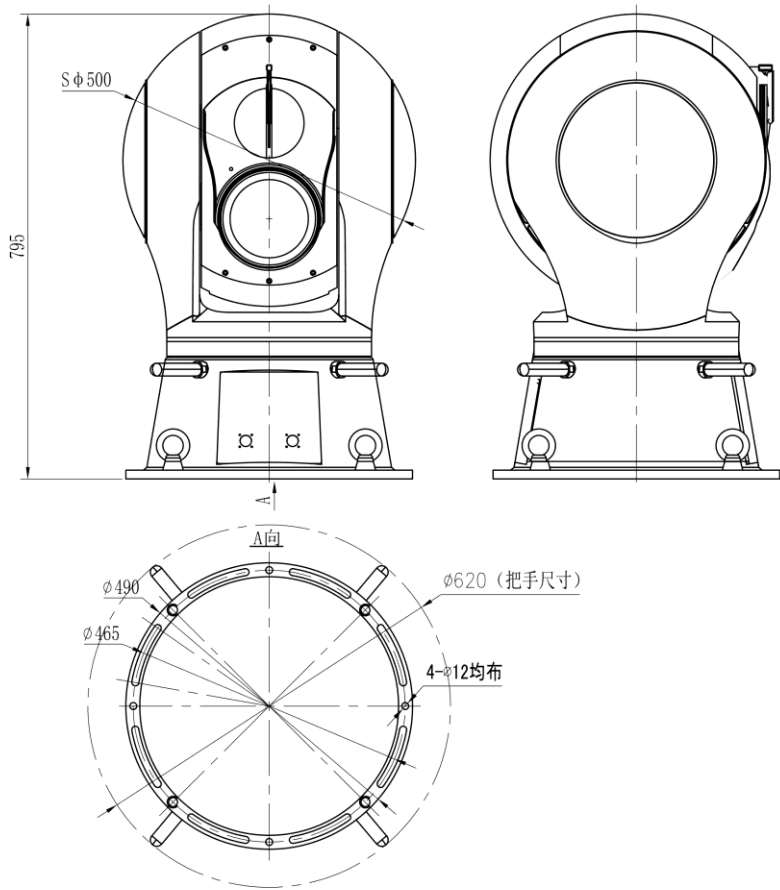
Pan/Tilt		
Pan		Range: 360° continuous Speed: 0.01° - 120°/s
Tilt		Range: -90° to +90° Speed: 0.01° - 120°/s
Present Accuracy		0.05°
Preset		300
Tour		8, Up to 32 presets per tour
Scan		5
Privacy Masking		4 areas
Park		Preset/Tour/Scan/Pattern
Scheduled Task		Preset/Tour/Scan/Pattern
Orientation Display		Support
Power-off Memory		Support
Snap Positioning		Support
Proportional P/T to Zoom		Support
3D Positioning		Support
Video and Audio		
Video Compression		H.265/H.264/H.264H/ H.264B/MJPEG
Main Stream		Visible: 50/60fps (2688 x 1520, 1920 x 1080, 1280 x 720), 16fps@MJPEG Thermal: 25/30fps (1280 x 1024, 704 x 576)
Sub Stream		Visible: 25/30fps (1920 x 1080, 1280 x 720, 704 x 576/480) Thermal: 25/30fps (704 x 576, 352 x 288)
Image Encoding		JPEG, 1-7fps (2688 x 1520)
OSD		Name, Time, Preset, Temperature, P/T Status, Zoom, Address, GPS, Image overlay, Abnormal info
Audio Compression		AAC (8/16kHz), MP2L2(16kHz)
Network		
Network Protocols		IPv4, IPv6, HTTP, HTTPS, TCP, UDP, RTSP, RTCP, RTP, ARP, NTP, FTP, DHCP, PPPoE, DNS, DDNS, UPnP, IGMP, ICMP, SNMP, SMTP, QoS, 802.1x, Bonjour
API		ONVIF(Profile S, Profile G, Profile T), HTTP API, SDK
User		Up to 20 users, 2 level: Administrator, User
Security		User authentication (ID and password), IP/MAC address filtering, HTTPS encryption, IEEE 802.1x network access control
Web Browser		IE, EDGE, Firefox, Chrome
Web Languages		English
Storage		MicroSD/SDHC/SDXC card (Up to 1Tb) edge storage, FTP, NAS
Analytics		
Perimeter	Intrusion	Line crossing, Fence crossing, Intrusion
Detection		
Object Classification		Human & Vehicle Detection and Classification

Fire Prevention	Fire & Smoke Detection, Smoking & Calling Detection
Abnormal Behavior Detection	Loitering Detection, Fast Moving, Crowd Gathering, Parking Detection, Abandoned Object, Missing Object
Auto Tracking	Multiple detection tracking modes
Interface	
Alarm Input	7-ch
Alarm Output	2-ch
Audio Input	1-ch RCA
Audio Output	1-ch RCA
Ethernet	1-ch RJ45 10M/100M
RS-485	1-ch
RS-422	1-ch
General	
Casing	IP 66, NEMA-4X Standard, Anti-corrosion coating, Integrated Wiper Automatic air cooling, Automatic temperature control, Automatic defog
Power	AC (90V - 264V) to DC48V power supply, Max 650W TVS 6000V, Surge protection, Voltage transient protection
Operating Conditions	Temperature: -40°C to +70°C/-40°F to 122°F, Humidity: 90%±3%
Dimensions	Φ 500mm x 795mm
Weight	≤90kg

Ordering Information

Model No.	Description
VS-PTZ4052YIO-RV62259-V50	4MP 775mm Long-range Bispectral VGA 225mm Thermal Sphere Positioning Camera

Dimensions



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