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Defender Ultra P60C
4MP 1200mm Ultra Long-range Bispectral HD Thermal High-speed Heavy-duty Positioning Camera

The Defender Ultra P60C is a heavy-duty, bispectral, high-speed PTZ surveillance system designed for ultra-long-range target monitoring beyond 15km in mission-critical applications like coastal and border surveillance. It features advanced imaging systems, leading AI intelligent analysis, powerful tracking capabilities, and comprehensive protection measures to provide reliable surveillance in a wide range of challenging environments

Features

Ultra Long-Range Monitoring
- 4MP 20-1200mm super telephoto visible camera for clear and detailed long-range images.
- SXGA (1280x1024) 50-350mm thermal imaging camera for 24/7 monitoring, regardless of lighting conditions.
- 3000m long-range laser IR illuminator for enhanced night vision.
- 20km laser range finder for accurate target distance

Excellent Image Quality and Night Vision
- AI-ISP technology optimizes image quality, enhancing low-light performance and dynamic range, detail and color reproduction.
- Powerful night vision capabilities for various lighting conditions.

Intelligent Functions
- AI-based intelligent detection, recognition, and tracking of targets for improved monitoring efficiency.

High-Speed and Accurate Tracking
- Maximum speed of 100°/s for rapid target acquisition and locking.
- Minimum speed of 0.01°/s for fine adjustments. Ultra-high preset accuracy of 0.005° for precise tracking and positioning.

Comprehensive Protection
- Built-in wiper and heater for harsh weather conditions.
- IP66 protection rating for dust and water resistance.
- Conforms to ASTM B117/ISO 9227 corrosion resistance standards for durability in harsh environments.
- 6000V surge protection for equipment safety.

Easy Integration
- Single IP integration of multi-spectral systems for simplified deployment.
- Supports ONVIF standard protocols for compatibility with various surveillance systems.

Technical Specs

Visible Camera

Image Sensor	1/1.8" STARVIS 2 progressive scan CMOS
Resolution	2688 x 1520, 4MP
Lens	20 - 1200mm, 60x optical zoom, F2.9 - F11
	Field of view: 22.1°x 12.6°(H x V) - 0.37°x 0.21°(H x V)
	Near focus distance: 1 - 10m
	Zoom speed: <8s(Wide - Tele)
	Focus modes: Semi-auto/Auto/Manual/One-push
Min. illumination	Color: 0.01Lux, B/W: 0.001Lux, AGC&AI-NR ON, F2.9
Electronic Shutter Speed	1/1-1/30000s
Noise Reduction	2D/3D/AI-NR
Image Stabilization	EIS
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
	16552m	6568m	3310m	1655m

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	1280 x 1024, SXGA
Lens	50 - 350mm, 7x continuous optical zoom, F1.4
	Field of view: 17.46°x 14.01°(H x V) - 2.51°x 2.01°(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

DORI Ratings*	Detection	Recognition	Identification
Human (1.80 m x 0.55 m)	9722m	2431m	1215m
Vehicle (4.0 m x 1.40 m)	27222m	6806m	3403m

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.
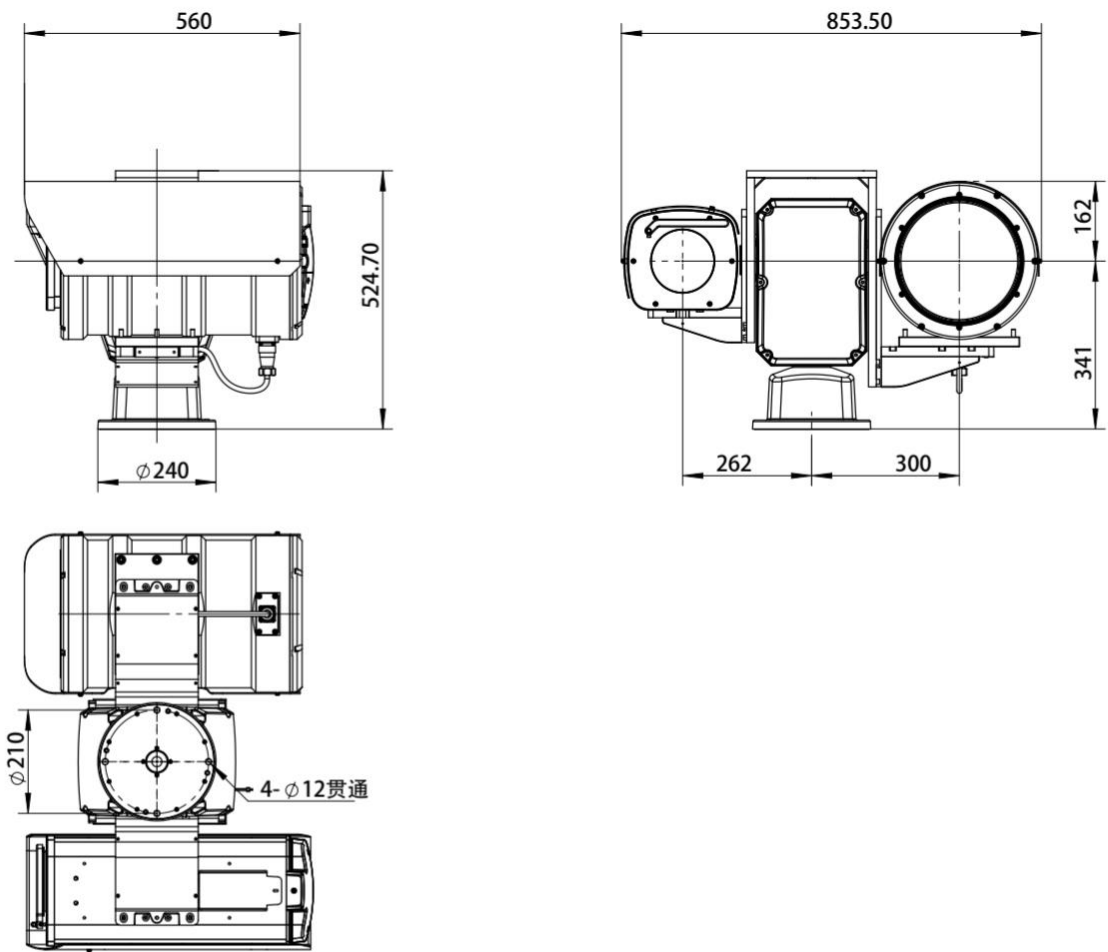
Pan/Tilt	
Pan	Range: 360° continuous
	Speed: 0.01° - 100°/s
Tilt	Range: -90° to +90°
	Speed: 0.01° - 60°/s
Present Accuracy	0.005°
Min Rotation Resolution	0.001°
Preset	256
Tour	8, Up to 32 presets per tour
Scan	4
Pattern	4
Park	Preset/Tour/Scan/Pattern
Scheduled Task	Preset/Tour/Scan/Pattern
Power-off Memory	Support
Snap Positioning	Support
Proportional P/T to Zoom	Support
Heater/Fan	Integrated, Auto/Manual
Wiper	Integrated, Manual/Scheduled
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 Detection	Tripwire, Virtual Fence, Area Intrusion
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
Audio Output	1-ch
Ethernet	1-ch RJ45 10M/100M
RJ485	1-ch

General

Casing	IP 66, Corrosion-resistant coating: Classification society standards: ASTM B117/ISO 9227 (2000 hours)
Power	48V DC, typical 30W, max 180W, DC48V/4.8A/230W Power adapter included TVS 6000V, Surge protection, Voltage transient protection
Operating Conditions	Temperature: -40℃ to 60℃/22℉ to 140℉, Humidity: <90%
Dimensions	835.5×560×524.7mm (W×H×L)
Weight	75kg

Ordering Information

Model No.	Description
VS-PTZ4060VIE-RVA3507-P60C	4MP 1200mm Ultra Long-range Bispectral HD Thermal High-speed Heavy-duty Positioning Camera

Dimensions

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