



The Defender Pro P60C camera is a premium bispectral PTZ surveillance system designed to provide early detection and vast area coverage in mission-critical applications like coastal and border surveillance. The camera integrates long range OIS visible lens & HD thermal imaging with an agile & robust PT system. Powered by industry leading AI ISP and in-house machine learning algorithms, the camera acts faster with a variety of intelligent detections. While the ruggedized design helps P60C's effectiveness in extreme weather conditions.

## Features

### Exceptional Imaging Performance

1/1.8" 4MP Sony Starvis sensor, presents crisp, clear images in even the most challenging lighting conditions.

### Vast Area Coverage

15~775mm 52x visible zoom lens with Optical Defog, along with 50~350mm 7x thermal zoom lens, enhance your awareness and detection range to over 10km.

### Fast Detection with Machine Learning

Act quicker with intelligent analytics that alert you in real-time of critical events. P60C supports various machine learning detections of fire/smoke/human/vehicle/vessel or anomalies to help you identify potential threats.

### HD High Sensitivity Thermal Imager

Industry leading SXGA (1280\*1024) Vox uncooled FPA detector with 12μm pixel pitch process, enhance identification capability under covers or minor temperature differences.

### Rugged Design for Tough Environments

Enhanced side-load structure with corrosion protection and IP66/TVS 6KV/lightning/surge/voltage transient protection, P60C is designed for various extreme maritime and outdoor weather conditions.

### Easy Maintenance and Operator Comfort

Single IP address for visible, thermal, PT control and precise positioning system (0.01°~180°/s) with auto-tracking, offers easy-to-use experience for every operator.

# 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<br><br>Field of view: 29.1°x 16.7°(H x V)~0.5°x 0.3°(H x V)<br><br>Near focus distance: 1~10m<br><br>Zoom speed: <7s(W~T)<br><br>Focus modes: Semi-auto/Auto/Manual/One-push |             |             |                |
| Min. illumination        | Color: 0.05Lux, AGC ON, F2.8  |             |             |                |
| Electronic Shutter Speed | 1/1~1/30000s  |             |             |                |
| Noise Reduction          | 2D/3D   |             |             |                |
| Image Stabilization      | EIS&OIS   |             |             |                |
| Day/Night                | Auto(ICR)/Manual  |             |             |                |
| White Balance            | Auto/Manual/ATW/Indoor/Outdoor/Sodium Lamp/Streetlight/Natural  |             |             |                |
| WDR                      | 120dB   |             |             |                |
| Optical Defog            | Auto/Manual   |             |             |                |
| 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      |   |             |                |
|---------------------|---|-------------|----------------|
| Imager              | Un-cooled FPA Vanadium Oxide microbolometer<br><br>Pixel pitch: 12µm<br><br>Spectral range: 8~14µm<br><br>Sensitivity (NETD): <50mK                             |             |                |
| Resolution          | 1280 x 1024, SXGA   |             |                |
| Lens                | 50~350mm, 7x motorized zoom, F1.4<br><br>Field of view: 17.46°x 14.01°(H x V)~2.51°x 2.01°(H x V)<br><br>Near focus distance: 1~10m<br><br>Zoom speed: <5s(W~T) |             |                |
| Focus Modes         | Semi-auto/Manual/One-push   |             |                |
| Color Modes         | White hot, Black hot, Fusion, Rainbow, etc. 20 user-selectable  |             |                |
| Image Stabilization | EIS(Electronic)   |             |                |
| Digital Zoom        | 8x  |             |                |
| DRI Distance*       | Detection   | Recognition | Identification |

|                      |        |       |       |
|----------------------|--------|-------|-------|
| Human (1.80m×0.5m)   | 9722m  | 2431m | 1215  |
| Vehicle (4.0m×1.40m) | 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.*

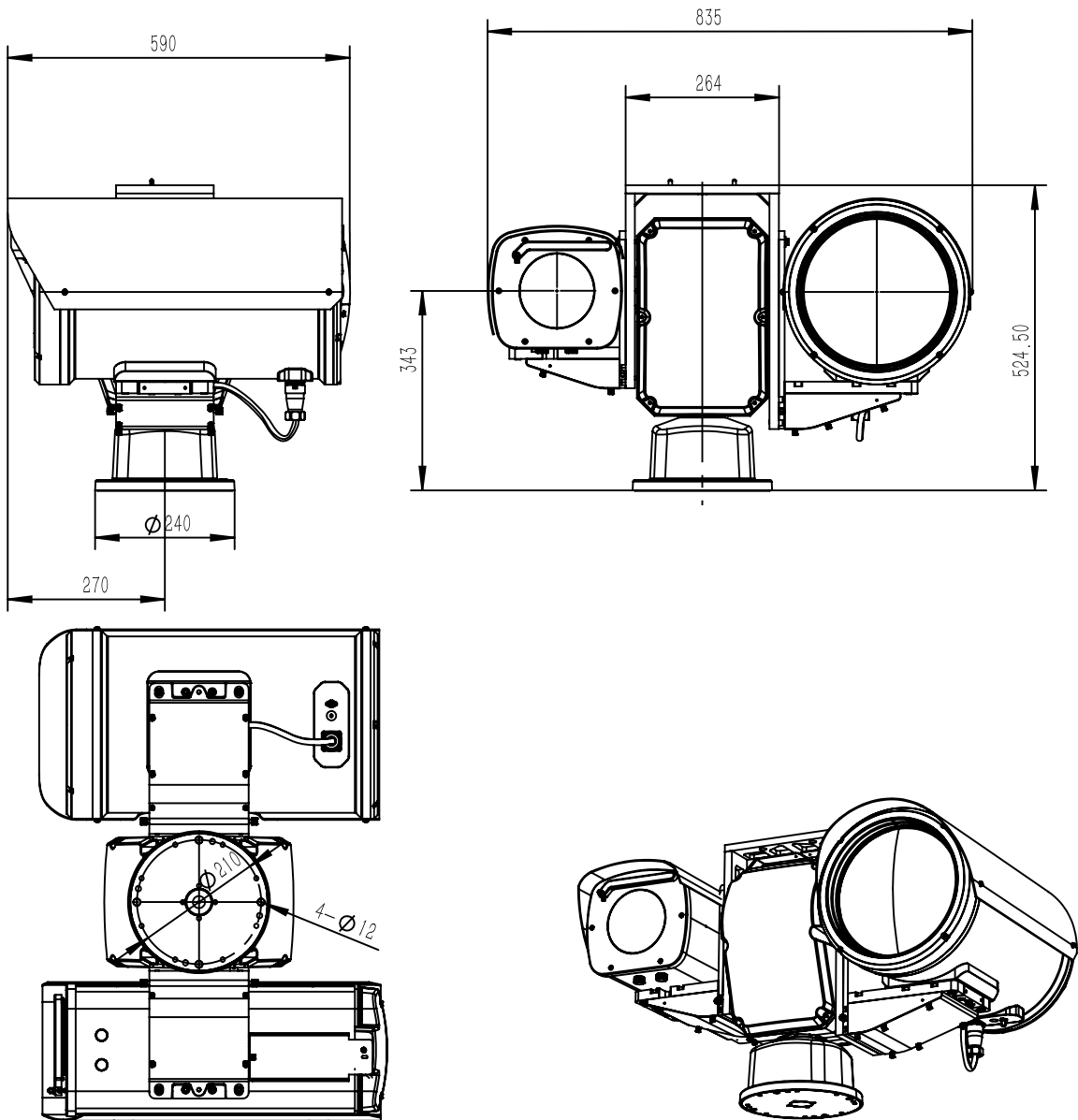
| Pan/Tilt                  |   |
|---------------------------|---|
| Pan                       | Range: 360° continuous rotation<br>Speed: 0.01°~ 100°/s   |
| Tilt                      | Range: -90°~+90°<br>Speed: 0.01°~100°/s   |
| Positioning Accuracy      | 0.003°  |
| Rotation Speed Resolution | 0.001°/s  |
| Preset                    | 256   |
| Tour                      | 8, Up to 32 presets per tour  |
| Scan                      | 5   |
| Pattern                   | 5   |
| 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: 25/30fps (2688 x 1520, 1920 x 1080, 1280 x 720), 16fps@MJPEG<br>Thermal: 25/30fps (1280 x 1024, 704 x 576)                           |
| Sub Stream                | Visible: 25/30fps (1920 x 1080, 1280 x 720, 704 x 576/480)<br>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/Chinese   |
| Storage                 | MicroSD/SDHC/SDXC card (Up to 1Tb) edge storage, FTP, NAS   |
| <b>Analytics</b>        |   |
| Perimeter Protection    | Line crossing, Fence crossing, Intrusion  |
| Target Distinction      | Human/Vehicle/Vessel Classification   |
| Behavioral Detection    | Object left in area, Object removal, Fast moving, Gathering, Loitering, Parking   |
| Events Detection        | Motion, Masking, Scene change, Audio detection, SD card error, Network disconnection, IP conflict, Illegal network access           |
| Fire Detection          | Support   |
| Smoke Detection         | Support   |
| Strong Light Protection | Support   |
| Auto Tracking           | Multiple detection tracking modes   |
| <b>Interface</b>        |   |
| 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  |
| <b>General</b>          |   |
| Casing                  | IP 66, Corrosion-resistant coating meets classification society standards: ASTM B117/ISO9227 (2000 hours)                           |
| Power                   | 48V DC, typical 100W, max 180W, DC48V/4.8A/300W Power adapter included<br>TVS 6000V, Surge protection, Voltage transient protection |
| Operating Conditions    | Temperature: -40℃~+60℃/22°F~140°F, Humidity: <90%   |
| Dimensions              | 835×524.5×590mm (W×H×L)   |
| Weight                  | About 86kg  |

# Ordering Information

| Model No.                   | Description   |
|-----------------------------|---|
| VS-PTZ4052NIO-RVUA3507-P60C | 4MP 775mm OIS Long-range Bispectral HD Thermal High-speed Heavy-duty Positioning Camera |

# Dimensions



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