VS231-A2 SERIES

HD 2MP SMART STARLIGHT IR IP PTZ DOME CAMERA

Infinova®

| Smart | 2.0 2.0 Mega Pixels | H.265 | H.264 | M–JPEG | SVC | Four Video Streams |
| ONVIF | http:// Web Server | PoE | IP67 IP67 | UL UL | | |

FEATURES

- The chip is integrated with TPU module, and supports video structuration function based on deep learning algorithm.
- HD network video output: 1920x1080@60fps
- Built-in 30X HD integrated camera module
- 1/1.8"Large area progressive scanning CMOS sensor
- Ultra-low illumination: 0.0005 lux
- Supports frame integration WDR, with dynamic range up to 120dB
- Inbuilt efficient infrared lamps of 850nm wave length to ensure stable long-term use and reduce maintenance cost.
- Night vision distance up to 300 meters
- The infrared power is adjusted automatically based on dome drive zooming or manually to optimize the night vision fill-in light effects
- H.265/H.264/M-JPEG/SVC video encoding, quad video streams
- Features rich smart functions such as video anomaly detection, behaviour-analysis detection, sound detection, statistics detection, intelligent grouping detection
- Support multi-target detection, tracking and snapshot; support optimum selection and duplicate removal for captured structurized images; small face images and panoramic images are optional to be uploaded to platforms for secondary analysis and retrieval

- Support structurized object attributes: able to detect face, pedestrian, motor vehicle and non-motor vehicle. Supports vehicle-pedestrian mode and vehicle mode such as Face attributes, Pedestrian attributes, Motor vehicle attributes, non-motor vehicle attributes
- Supports the simultaneous output of vehicle panorama, vehicle details and license plate.
- Able to detect human face when tilting up or down ±45°, turning right or left ±45°, or leaning right or left ±45°
- Able to detect face images with a minimum of 30*30 pixels at 1080P
- Able to detect 30 target objects simultaneously in a single scene
- Up to 8 ROI (Region of Interest) areas.
- Onvif Profile S/G/T and RTSP compliant
- Supports preset, autopan, pattern, autoscan, timed tour, normal tour, scene tour, power-on return, etc.
- 2 alarm inputs, 1 on-off output
- Micro SD card
- Supports water-proof breather valve
- IP67 environmental rating for outdoor use
- IK10
- UL

DESCRIPTION

Based on deep-learning algorithm, VS231-A2 series HD IR IP dome camera is endowed with vivid smart functions and video structuring functions such as face detection, pedestrian detection, motor vehicle detection and non-motor vehicle detection. It's able to output target attributes and images to the backend platform for big data analysis, which effectively reduces loads and costs of smart analysis and handling that the control platform bears. The camera can also connect to Infinova's smart structurized big-data platform seamlessly. Standard http protocol and SDK are provided to connect to the third-party platform.

The camera has a built-in HD integrated camera module, utilizes large size progressive scanning CMOS sensor and has an internal 30X optical zoom lens. It provides high quality video with the resolution up to 1920x1080@60fps, adopts H.265/H.264/M-JPEG /SVC compression formats, outputs four video streams and boasts of excellent resolution and color reproduction ability to ensure richer and more accurate details to be acquired and also guarantee the accuracy of intelligent analysis in a more effective way.

The camera adopts large power LED infrared lamps, with infrared wave length of 850nm, covering up to 300m for night view. The IR lamps can turn on or off automatically based on environmental lighting conditions or can be adjusted manually. The IR illumination allows flexible adjustment so as to reduce IR lamp calorific value and extend its service life.

VS231-A2 can be widely used in city surveillance, road monitoring, entrance surveillance for subways, shopping mall, supermarket and large venues, crowded places like train stations, airports and other demanding applications.

TECHNICAL SPECIFICATIONS

Lens (Visible)	
Image Sensor	1/1.8" progressive scanning CMOS
Optical Zoom	30X
Digital Zoom	12X
Focal Length	f=6~180mm
Iris	F1.6~F4.8
Focus	Auto/Manual
FOV(H/V/D)	H: 58.4° ~ 2.1°; V: 34.1° ~ 1.2°; D: 65.5° ~ 2.4°
Lens Mount	-
Lens (Thermal)	
Imager Type	-
Lens Type	-
Spectral Band	-
Pixel Size	-
NETD	-
Focal Length	-
FOV	-
Video	
Camera Resolution (Visible Lens)	2MP
Camera Resolution (Thermal Lens)	-
Max. Coding Capacity (Visible Lens)	Major stream: H.264/H.265 –60fps@1920x1080 Minor stream: H.264/H.265 –30fps@1920×1080 Third stream: H.264/H.265 –30fps@384×256 Fourth stream: H.264/H.265 –30fps@384×256 Major stream: H.264/H.265 –60fps@1920×1080 Minor stream: H.264/H.265 –30fps@1920×1080 Third stream: MJPGE –30fps@1920×1080 Fourth stream: H.264/H.265 –30fps@384×256
Max. Coding Capacity (Thermal Lens)	-
Data Rate	VBR/CBR Major stream: 128kbps~10240kbps Minor stream: 128kbps~4096kbps Third stream: 128kbps~512kbps Fourth stream: 128kbps~512kbps
Video Compression	H.265/H.264/M-JPEG/SVC independent coding
Multi-Streaming	Four-stream independent output

Video Rotation	Video can be rotated by 0°, 90°, 180°, 270°
Audio	
Audio Compression	G.711-A/ G.711-U/ G.726/ AAC
Sample Rate	8KHz (for G.711-A/G.711-U/G.726), 16KHz, 32KHz, 44.1KHz and 48KHz (for AAC)
Audio Interface	1 input, Linear level; 1 output, Linear level
Two-way Audio	Available
Mic & Speaker	-
Image	
Shutter	Auto/Manual (1/1s~1/32,000s)
WDR	Up to 120dB
Exposure	Auto/Manual/Shutter
Sensitivity	Color mode: 0.005lux (IR OFF); B/W mode: 0.0005lux (IR OFF); 0 Lux (IR ON)
White Balance	Auto/Manual/Outdoor
Video Adjustment	Brightness, contrast, saturation, hue, sharpness
Noise Reduction	3D
S/N Ratio	≥62dB
Defog	Available
EIS	Available
Mirror	Horizontal, Vertical
Corridor Mode	-
Day/Night Switching	ICR
AGC	Auto/Manual, up to 64X
BLC	Available
HLC	Available
Privacy Mask	Up to 4 definable zones
ROI	Up to 8 definable zones
OSD	Supported
Pan/Tilt Functions	
Preset	1024
Pattern	12
Autopan	12
Normal Tour	16 groups (each tour can link to 14 actions, optional with Presets 1~32, Patterns 1~4 and Autopans 1~4)
Home Return	Available
Timing Tour	Available
Autoscan	Available
Area Zoom	Available

TECHNICAL SPECIFICATIONS

IR Illumination

Smart-IR	Available
Wave Length	850nm
Night Vision Distance	300m

Temperature Measurement

Screening	-
Function	-
Measurement	-
Measurement Distance	-
Measurement Range	-
Accuracy	-

Smart Analytics

Video Analytics	Video Anomaly Detection - Camera tampering, camera shifting, defocus detection, high brightness detection, low brightness detection, video loss detection, color cast detection, and motion detection Behaviour Analysis Detection - Wire crossing detection, intrusion detection, object abandoned detection, object lost detection, loitering detection, crowd detection, fast moving detection and target fall detection Sound Detection - Abnormal sound detection and fight detection Statistics Detection - Counting, density detection, queue length detection and dwelling detection Intelligent Grouping Detection - Structurized face detection grouping, behaviour analysis grouping, and people and vehicle coexistence detection grouping, PTZ tracking grouping Multi-object detection - Support face, pedestrian, motor vehicle, and non-motor vehicle detection Capture - Support target detail capture Optimum Selection - Support optimum selection and duplicate removal for captured images to deliver the best-quality images Video Structurization - Support structurized object attributes:- Face attributes: gender, glasses, eyes open, mask, mouth open and facial expression (angry, disgusted, fearful, happy, sad, surprised or neutral) - Pedestrians attributes: gender, age (youth, middle-aged, elderly or teenager), top style (long sleeve, short sleeve, robe or trench coat, stripe, logo, plaids, matching or splicing), top color (white, black, red, yellow, grey, blue, green, dark grey or purple), bottom style (long pants, shorts, skirt, stripes or patterns), bottom color (white, black, red, yellow, grey, blue, green, dark grey or purple), glasses, hat, backpack, shoulder bag, holding kids, objects in hand, protective clothing, safety helmet, direction (front, back, side) - Motor vehicle attributes: Types (car, tricycle, truck, pickup trucks, van, bus), vehicle brands, vehicle body color (black, blue, brown, green, grey, white, red, yellow, pink, purple, dark grey, silver, orange, green and other), license plate number, license plate color (yellow, blue, black, white and green), license plate types (small car plate, large car plate, new energy vehicle license plate, large truck or trailer license plate), direction(front, rear, left, right, left front, right front, left rear and right rear) - Non-motor vehicle attributes: type (bicycle, motorcycle), equipped with umbrella, helmet,

overload, direction (front, rear, left, right, left front, right front, left rear and right rear).
PTZ tracking - Support human tracking; Supports capturing human body and human face during the tracking process

Storage

Storage Slots	Supports single card
Built-in Storage	Up to 512GB
NAS Storage	-
Local PC Recording	Available

Alarm

Alarm Ports	2 alarm inputs, 1 on/off output
Alarm Input	I/O input, smart analysis, SD card removal, SD card full with videos, SD card full with images, network disconnection, heartbeat loss
Alarm Association	I/O output, email, FTP picture uploading, audio, SD card recording, SD card snapshot, alarm info push

System Functions

Operating System	Win 7 or above versions
Browser	IE8 or above versions
Access Protocol	ONVIF Profile S/G/T, CGI 2.7
Multiple Access	Up to 20-ch simultaneous access
Web Server	Available
Remote Upgrade	Available
Password Protection	Available
RS485 Port	Supports, 1*RS485
Analog Video Output	-
Maximum Number of Users	64, with 3 types of users available: administrator, normal user, and operator
Wiper	-

Network

Network Interface	1*RJ45 10/100M self-adaptive Ethernet port
Network Protocols	IPv4/IPv6, TCP, UDP, IGMP, ICMP, IGMPv2/3, DHCP, SNMP (V1, V2, V3), FTP, SMTP, NTP, RTP, RTSP, RTCP, HTTP, HTTPS, SSL, 802.1x, QoS, PPPoE, DNS, DDNS, ARP, UPnP, IP Filter, TLS, Multicast, SIP
IP Address Filtering	Support blacklist and whitelist filtering
Network Delay	<250ms

Environmental

Anti-Static	Air discharge 8KV, Contact protection 6KV
Surge Protection	Differential mode 4KV, common mode 6KV
Operating Temperature	-40°F ~ 158°F (-40°C ~ 70°C) (outdoor) -4°F ~ 140°F (-20°C ~ 60°C) (PoE+, outdoor)
Storage Temperature	-4°F~140°F (-20°C~60°C)
Operating Humidity	≤ 95% RH
Environmental Rating	IP67
Impact Resistance	IK10

Mechanical

Manual Speed	Pan: 0.1° ~1000°/s; Tilt: 0.1° ~ 300°/s
Preset Speed	Up to 400°/s
Rotation Angle	Pan: 360°; Tilt: -5° ~ 90° (auto-flip)
Preset Accuracy	<±0.1°
Electric Motor	Stepping motor

Electrical

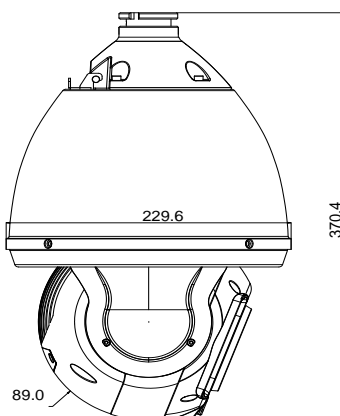|	
Power Supply	PoE+ (IEEE802.3at type2 Class4)/ 24VAC/ 24VDC
Power Consumption	<17W (Idle state) <55W (Max, Heater on, IR lamp manually adjusted to maximum)

Physical	
Product Dimension (H x D)	14.6" × Φ9.04" (370.4mm × Φ229.6mm)
Package Dimension (L x W x H)	19.09" × 11.02" × 11.81" (485mm × 280mm × 300mm)

Unit Weight	12.79 lbs (5.8kg)
Shipping Weight	16.76 lbs (7.6kg)
Certifications	
Product Certifications	CE, FCC, RoHS, IP67, IK10, UL

ORDERING INFORMATION

VS231-A230-A061	HD Megapixel IR IP PTZ Dome Camera, Intelligent face capture, Starlight, WDR, 2MP, 30X, 1/1.8" CMOS, Day/night, H.265/H.264/M-JPEG, With audio alarm, Outdoor, Bracket mount, PoE/24VDC/24VAC
Accessories	
Mount	
V1761K	Wall Mount, bayonet, 10 inches
V1762K	Corner Mount, bayonet, 10 inches
V1763K	Pole-side Mount, bayonet, 10 inches
Power Supply	
N3922-24D-3	AC to DC Power Supply, Plug-In, 230VAC, Output 24VDC, 3A
N3922-24A-3	AC to AC Power Supply, Plug-In, 230VAC, Output 24VAC, 3A
N3922-75P-2	Smart POE Injector, 100VAC-240VAC input, 75W output

DIMENSIONS

MOUNTING

Wall mounting   Pole mounting   Corner mounting