AUTODOME IP 5000 IR

www.boschsecurity.com

BOSCH
Invented for life

- High-performance HD outdoor PTZ dome camera with integrated IR illumination for scenes with low or no ambient lighting
- Choice of HD resolution (720p25/30 or 1080p25/30)
- Long distance illumination up to 180 m (590 ft) allows easy detection and following of moving targets
- Variable illumination ensures that IR light is uniformly distributed in the field to avoid dark spots or over illuminated scene
- Superior privacy masking to safeguard the privacy of individuals

Keep your security in focus with the many features of AUTODOME IP 5000 IR cameras with integrated IR technology from Bosch. The camera is carefully tuned to deliver detailed 720p25/30 or 1080p25/30 HD images during daylight and full details under low-light or no-light conditions with the integrated IR illuminator. The intelligent IR illuminator automatically adjusts the IR intensity according to zoom and field of view to ensure that the scene is illuminated uniformly. The AUTODOME IP family makes it easier for you to stay in control of your security even when you're on the go. When used in combination with the Video Security App from Bosch, the camera supports Dynamic Transcoding technology, which allows you to stream high-resolution H.264 video, to pan/tilt/zoom the camera, and to search recorded clips remotely through mobile devices such as smart phones or tablets, all on a low-bandwidth network connection (up to 50% less than other H.264 PTZ cameras). The camera provides complete network-based control of all functionality including pan/tilt/zoom operation, presets, tours, alarms, and web-based configuration of all camera settings.

Functions

See in the dark
The camera operates with smart, variable IR illumination technology from Bosch, producing outstanding video in low-light scenes.
The camera offers unique flexibility that offers configuration of IR on a per-zone basis. This ensures a single dominant illumination source in a specific scene, avoiding focus instability due to mixed lighting conditions.

Superior imaging performance
Designed using Bosch's digital imaging platform, AUTODOME IP 5000 IR cameras deliver high-resolution, zoomed-in views with large coverage areas.

Three (3) pre-programmed user modes
The camera comes with three (3) pre-tuned scene modes to match various lighting conditions found in indoor scenes. Users can complete the configuration without going through multiple imaging settings.

- Indoor: general day-to-night changes without sun highlights and street lighting

- Outdoor: general day-to-night changes with sun highlights and street lighting
- Vibrant: enhanced contrast, sharpness and saturation

Sodium vapor lamp white balance
The camera is an exceptional performer when capturing video under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Uncorrected images under these conditions have a yellowish tint, which can make identification difficult. In the Sodium Vapor White Balance mode, the camera automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

Superior privacy masking
For installations in public places where privacy of private property is of high concern, the camera provides 24 individual, easy-to-configure privacy masks, with up to 8 displayed in the same scene. As the camera is zoomed, each mask changes size smoothly and quickly, ensuring that the covered object cannot be seen in most cases.

PTZ drive and mechanism
The camera supports 256 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 64 pre-positions with a configurable dwell time between pre-positions and can be customized as to the order and frequency each preset is visited. The camera also provides support for two (2) recorded tours, which have a total duration of 15 minutes of movements. These are recorded macros of an operator's movements, including pan, tilt, and zoom activities, and can be played back in a continuous manner
Pan and tilt preset repeatability are accurate to within ±0.2 degrees to ensure that the correct scene is captured every time. The camera delivers maximum pan speed of 300 degrees per second and maximum tilt speed of 160° degrees per second. The camera is capable of manual speeds (pan and tilt) of 0.1 to 120 degrees per second. The camera provides a pan range of up to 360 degrees continuous rotation.
The camera's tilt angle is from 0° to ±90°.

Intelligent Dynamic Noise Reduction reduces bandwidth and storage requirements
The camera uses Intelligent Dynamic Noise Reduction which actively analyzes the contents of a scene and reduces noise artifacts accordingly.
The low-noise image and the efficient H.264 compression technology provide clear images while reducing bandwidth and storage by up to 50% compared to other H.264 cameras. This results in reduced-bandwidth streams that still retain a high image quality and smooth motion. The camera provides the most usable image possible by cleverly optimizing the detail-to-bandwidth ratio.

Bitrate optimized profile
The average typical optimized bitrate in kbits/s for various frame rates is shown in the table:

IPS	1080p	720p	480p
30	2600	1300	1000
15	2100	1100	800
10	1800	1000	700
5	1250	600	450
2	500	270	200

Actual bitrate may vary depending on the scene complexities and encoding configurations.

Area-based encoding
Area-based encoding is another feature which reduces bandwidth. Compression parameters for up to eight user-definable regions can be set. This allows uninteresting regions to be highly compressed, leaving more bandwidth for important parts of the scene.
User can configure encoding regions for every configured preset (preposition/scene), to increase or decrease the encoding quality for selectable areas of the video image. These regions give better control of the bit rate. Important parts of the scene (identified as objects in the GUI) are encoded at high resolution and therefore have an enhanced encoding quality. Less important parts (such as the sky and trees in the background, all identified as backgrounds in the GUI) are encoded at lower quality and therefore have a decreased encoding quality.

Intelligent Defog
Users can configure the mode to be active continuously, or to activate automatically when the video analytics in the camera detect fog and add light to the video image (and then deactivate when the fog clears or the scene changes).

Advanced streaming
The camera offers advanced streaming capabilities so that you can configure the camera to take advantage of the latest network technology.
The camera is designed on an efficient and powerful H.264 encoding platform capable of delivering high-quality HD video with very low network load. The new intelligent encoding capabilities drop the bandwidth consumption to extremely low levels if the camera detects no motion in the scene.
The camera is capable of quad streaming which allows the camera to be configured to deliver independent, configurable streams for live viewing, recording, or remote monitoring on over bandwidth-constrained networks.

Recording and storage management
A memory card (a maximum of 32 GB microSDHC / 2 TB microSDXC) can be used for local alarm recording or for scheduled local recording to improve the overall recording reliability. Recording management can be controlled by the Bosch Video Recording Manager (VRM), or the camera can use iSCSI targets directly without any recording software.

Alarm handling and Motion Detection
A wide range of configuration options is available for alarms signaling the camera. A built-in algorithm for detecting movement on presets can also be used for alarm signaling, or the camera can interface to an external alarm source using the built-in alarm I/O ports. In addition, a user can also schedule virtual alarms. Any of the available external alarm, motion alarm or scheduled virtual alarms can then be used to trigger a relay output or to force the camera to do certain tasks (for example, to start a guard tour or to go to a preset location).

Access security
Password protection with three levels and 802.1x authentication is supported. To secure Web browser access, use HTTPS with a SSL certificate stored in the camera.

Complete viewing software
There are many ways to access the camera's features: using a web browser, with the Bosch Video Management System, with the free-of-charge Bosch Video Client, with the Video Security App, or via third-party software.

Bosch Video Security app
The AUTODOME IP cameras fully support Dynamic Transcoding technology from Bosch, which – in combination with the Video Security App from Bosch– provides 24/7 remote access to camera controls, live video streams, recordings and HD images from anywhere, regardless of available bandwidth. Dynamic Transcoding automatically adjusts the bit rate to the available bandwidth to ensure smooth video streaming. When the video is paused at an incident, a full HD still image is shown instantly. To gain all benefits of Dynamic Transcoding, simply expand the IP video surveillance system with either a DIVAR IP recording solution or a VIDEOJET XTC from Bosch.

System integration
The camera conforms to the ONVIF Profile S specifications. This ensures interoperability between network video products regardless of manufacturer. Third-party integrators can easily access the internal feature set of the camera for integration into large projects. Visit the Bosch Integration Partner Program (IPP) website (ipp.boschsecurity.com) for more information.

Ease of installation and servicing
The camera has been designed for quick and easy installation, a key feature from Bosch IP video security products.
Bosch designed the camera with the knowledge that field cables and mounts are installed before the camera is mounted. The new installation concept allows a single person to connect the cables directly to the camera without re-routing cables. The camera is easily secured to the mount with a single screw. The three-step installation process can save up to 5 minutes per camera installation compared to any conventional PTZ dome.
The camera is rated to provide IP66 protection and offer an operating temperature range down to -40 °C (-40 °F). The housing comes fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (sold separately).

Dual power options
All models can be powered by a IEEE 802.3at PoE+ switch or a 24 VAC power supply. When powered using PoE+ (IEEE 802.3at class 4) configuration, only a single cable connection is required to power and to control the camera while also viewing images from the camera. For additional system reliability, users also have the option to connect the 24 VAC power supply to the camera while using PoE+.

Easy upgrade
Remotely upgrade the camera whenever new firmware becomes available. This ensures up-to-date products, thus protecting investment with little effort.

Unsurpassed reliability
As with all Bosch products, the camera is designed using the industry's best design process and is subjected to the most stringent testing standards such as HALT (highly accelerated life testing), which pushes the limits of products to ensure reliability throughout their lifetime.

Certifications and approvals

HD standards
- Complies with the SMPTE 274M-2008 Standard in:
  - Resolution: 1920x1080
  - Scan: Progressive
  - Color representation: complies with ITU-R BT.709
  - Aspect ratio: 16:9
  - Frame rate: 25 and 30 frames/s
- Complies with the 296M-2001 Standard in:
  - Resolution: 1280x720
  - Scan: Progressive
  - Color representation: complies with ITU-R BT.709
  - Aspect ratio: 16:9
  - Frame rate: 25 and 30 frames/s

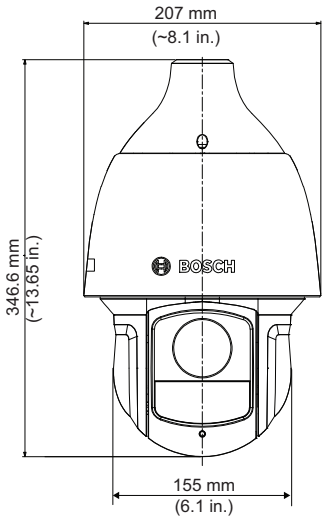
Marking	Applicable Standard
cULus	• UL60950-1/-22 (ed 2) + (Includes CSA 22.2 No. 60950-1/-22) • IEC-62471
FCC Part 15 (USA)	• 47CFR Part 15 • ICES-003 (Canada)

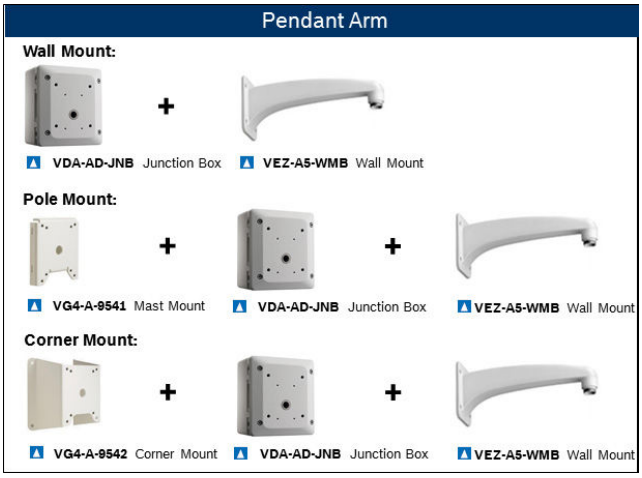
CE (Europe)	**Electromagnetic Compatibility (EMC) Directive** • EN 55022:2010 • EN 50130-4:2011 • EN 61000-3-2:2014 • EN 61000-3-3:2013 **Product Safety: Low Voltage Directive** (IECEE CB scheme certificate and report are required) • EN 60950-1:2006+A11:2009+A1:2010 +A12:2011+A2:2013 (with national differences) • IEC 60950-1/-22
Other labels / markings	• RCM

Other requirements are defined in the *Technical specifications* section.

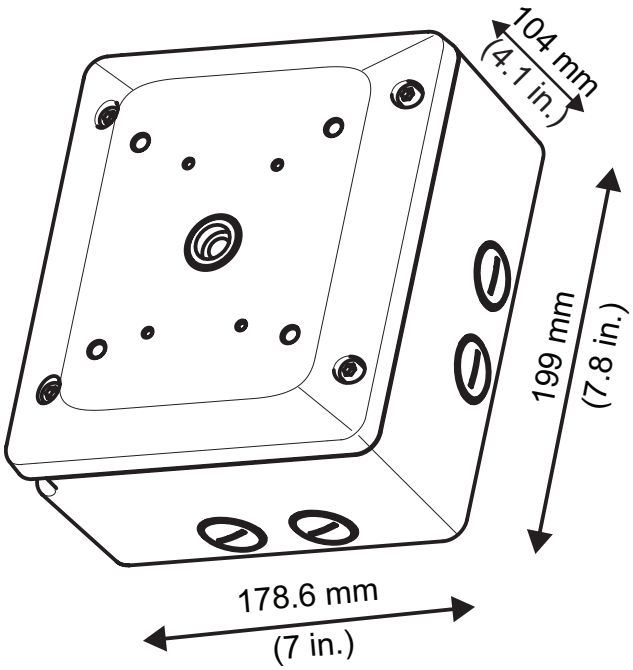
Region	Certification	
Europe	CE	- AUTODOME IP 5000 IR
USA	UL	- AUTODOME IP 5000 IR

Installation/configuration notes

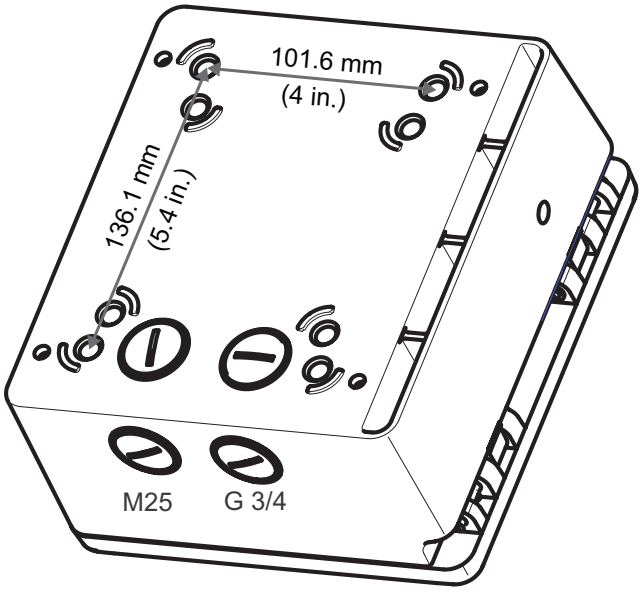




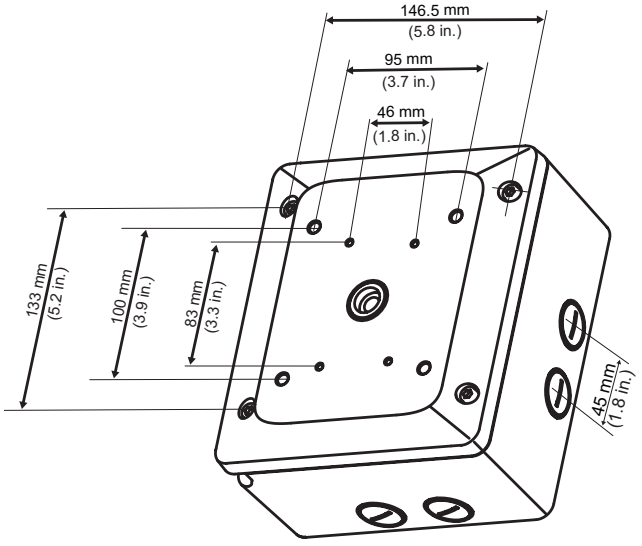
Mount Matrix



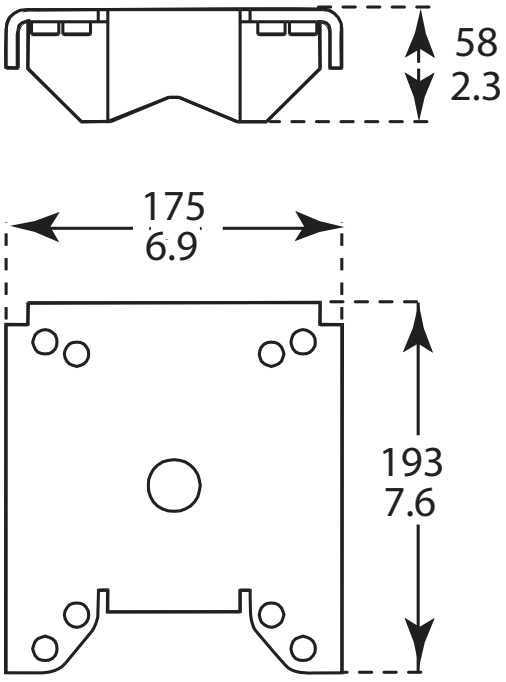
VDA-AD-JNB dimensions (outer box)



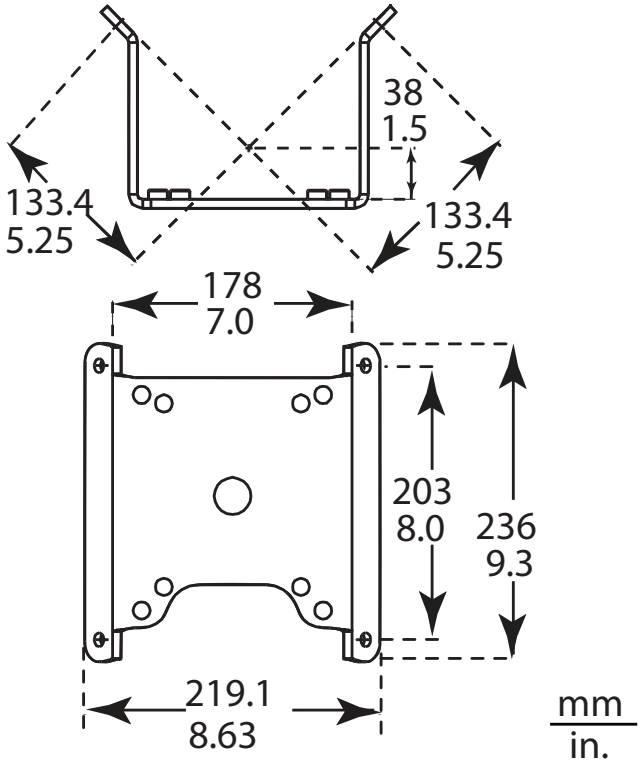
VDA-AD-JNB mounting hole measurements - back/rear



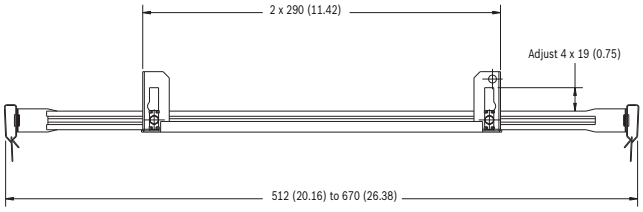
VDA-AD-JNB mounting hole measurements - front



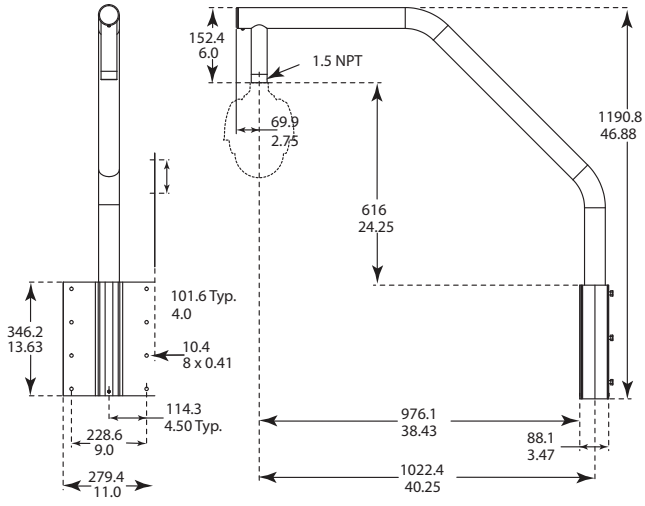
VG4-A-9541_Pole-Mount-Adapter_dimensions



VG4-A-9542_Corner-Mount-Adapter_dimensions



VGA-IC-SP dimensions



VGA-ROOF-MOUNT dimensions

Parts included

1	AUTODOME IP 5000 IR camera
1	Camera base template
1	Screwdriver, T15 Torx
4	MAC address labels
1	Quick Installation Guide

Technical specifications

Full product functionality is expected for specified conditions under general requirements for the operating temperature range and power supply.

AUTODOME IP 5000 IR camera

Imager	1/2.8" progressive scan CMOS
Total sensor pixels	2.48M pixels
Effective pixels	1080p: 1984 (H) x 1105 (V) (approximately 2.43M pixels) 720p: 1344 (H) x 745 (V)
Lens Focal Length	30x Zoom 4.3 mm - 129 mm (F 1.6 - F 5.0)
Field of View (FOV)	2.3° - 65°
Focus	Automatic with manual override
Iris	Automatic
Digital Zoom	16x

Sensitivity / Minimum Illumination (typical)	**30 IRE**	**50 IRE**
Day Mode (Color)		
SensUp off	0.11 lux	0.20 lux
SensUp on (1/7.5)	0.02 lux	0.04 lux
Night Mode (Black and white (monochrome))		
SensUp off	0.022 lux	0.04 lux
SensUp on (1/7.5)	0.004 lux	0.008 lux
With infrared (IR)	0 lux	0 lux

Electronic Shutter Speed	1/25 sec to 1/15,000 sec (12 steps)
WDR	76dB (DWDR)
Signal-to-noise Ratio (SNR)	>50dB (AGC off)
Noise Reduction	Intelligent Dynamic Noise Reduction
Backlight Compensation (BLC)	On/Off
Intelligent Defog	Automatically adjusts parameters for best picture in foggy or misty scenes (switchable)"
White Balance	Standard Auto, Sodium Vapor Auto, Basic Auto, Manual, Hold, Dominant Color Auto
Day/Night	Mechanical switchable IR filter (Auto/On/off) Monochrome
Number of LEDs	4
Wavelength	850 nm
Distance	180 m (590 ft) (Detection)
Beam angle	Wide beam: 36° Narrow beam: 6.3°

Mechanical

Pan/Tilt Modes	Normal: 0.1°/s - 120°/s Turbo: Pan: 0.1°/s - 240°/s; Tilt: 0.1°/s - 120°/s
Preset Speed	Pan: 240°/s Tilt: 160°/s
Pan Range	360° continuous
Tilt Range	0° to ±90°
Preset Accuracy	± 0.2° typ.

Presets	256
Tours	Two (2) types of tours: • Recorded tours – two (2), maximum total duration 15 minutes (depending on the amount of commands sent during recording) • Preset tour – one (1) consecutive, one (1) custom

Electrical

Input Voltage	24 VAC and PoE+
Power Consumption	24 VAC: 27.5W PoE+: 25.5W

Network

Video compression	H.264 (ISO/IEC 14496-10) M-JPEG
Streaming Capability	Quad Stream (2x H.264, 1x MJPEG, 1x i-Frame only)
Frame Rate	1080P (1 - 25/30fps) 720P (1 - 25/30fps)

When the option in field "Property" for Stream 1 is:	The available options in field "Property" for Stream 2 are:
H.264 MP SD	- H.264 MP SD
H.264 MP 720p fixed	- H.264 MP SD - H.264 MP 720p fixed - H.264 MP 400x720 upright (cropped) - H.264 MP D1 4:3 (cropped) - H.264 MP 1280x960 (cropped)* - H.264 MP 640x480
H.264 MP 1080p fixed*	- Copy Stream 1* - H.264 MP SD* - H.264 MP 720p8/10 fixed* - H.264 MP 1080p4/5 fixed* - H.264 MP 400x720 upright (cropped)* - H.264 MP D1 4:3 (cropped)* - H.264 MP 640x480
H.264 MP 720p50/60 fixed	- Copy Stream 1* - H.264 MP SD* - H.264 MP 720p6/7 fixed* - H.264 MP 400x720 upright (cropped)* - H.264 MP D1 4:3 (cropped)* - H.264 MP 640x480

*This option is available for dynamic (1080p) models only.

Non-recording profiles	Two (2) streams, I-frame only Options are: - HD Image Optimized; - HD Balanced; - HD Bit Rate Optimized; - SD Image Optimized; - SD Balanced; - SD Bit Rate Optimized; - DSL Optimized; - 3G Optimized

Resolution	Model NEZ-5130-IRCW4	Models NEZ-5230-IRCW4
	720P (1280×720) D1 (704×576/704×480)	1080P (1920×1080) 720P (1280×720) D1 (704×576/704×480)

Ethernet	10/100BASE-T
Protocols	IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, APIPA (Auto-IP, link local address), NTP (SNTP), SNMP (V1, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selfHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox, CHAP, digest authentication
Interoperability	ONVIF Profile S; GB/T 28181

Audio	
Compression	G.711, 8kHz sampling rate L16, 16kHz sampling rate AAC, 16kHz sampling rate
Interface	1/1 Channel In/Out

Local Storage

Local storage	Memory card (a maximum of 32 GB microSDHC / 2 TB microSDXC). (An SD card of Class 6 or higher is recommended for HD recording.)

Miscellaneous

Sectors / Titling	16 independent sectors with 20 characters per title
Privacy Masking	24 individually configurable privacy masks
Video Analysis	MOTION+
Supported Languages	English, German, Spanish, French, Italian, Dutch, Polish, Portuguese, Russian, Japanese, Chinese (simplified)

User Connections

Power, Network	RJ45 (10/100BASE-T)
Power, Camera	24 VAC
Alarm Inputs	2
Alarm Outputs	1 relay output
Audio input	1
Audio output	1

Environmental

Ingress Protection Rating/ Standard	IP66
Operating Temperature	-40 °C to +60 °C (-40 °F to +140 °F)
Humidity	Less than 90% RH
Storage Temperature	-40 °C to +60 °C (-40 °F to +140 °F)

Construction

Dimensions (D x H)	207 mm x 346.6 mm (8.15 in. x 13.65 in.)
Weight	4.0 Kg (8.8 lb)
Construction Material	Housing: Aluminum Sunshield: Outdoor Grade Plastic
Standard Color	White (RAL 9003)

Ordering information

AUTODOME IP 5000 IR
AUTODOME IP 5000 IR, 30x 720p30 HD camera with outdoor pendant housing and sunshield
Order number **NEZ-5130-IRCW4**

AUTODOME IP 5000 IR
AUTODOME IP 5000 IR, 30x 1080p30 HD camera with outdoor pendant housing and sunshield
Order number **NEZ-5230-IRCW4**

Accessories

UPA-2450-60 Power Supply, 120 V, 60 Hz
Indoor power supply for camera. 120 VAC, 60 Hz In; 24 VAC, 50 VA Out
Order number **UPA-2450-60**

UPA-2450-50 Power Supply, 220 V, 50 Hz
Indoor power supply for camera. 220 VAC, 50 Hz In; 24 VAC, 50 VA Out
Order number **UPA-2450-50**

High PoE Midspan, 60 W, single port, AC in
High Power, 60 W Single Port PoE Midspan with AC in
Order number **NPD-6001A**

Junction Box for AUTODOME IP 4000/5000 (VDA-AD-JNB)
Aluminum Junction Box without power supply for AUTODOME 4000 and 5000 cameras. Compatible with VEZ-A5-WMB and NEZ-A4-WW wall mounts, VG4-A-9542 corner mount, and VG4-A-9541 pole mount. Three M25 conduit holes, three G ¾ conduit holes. Wall-mountable. White.
Order number **VDA-AD-JNB**

VEZ-A5-WMB Wall Mount Bracket
Mount for installing an AUTODOME 5000 camera on a wall
Order number **VEZ-A5-WMB**

VEZ-A5-PP AUTODOME 5000 Pipe Mount
Mount for installing an AUTODOME 5000 camera onto a pipe.
Order number **VEZ-A5-PP**

VG4-A-9541 Pole Mount Adapter
Pole mount adapter for a VDA-AD-JNB Junction box
Order number **VG4-A-9541**

VG4-A-9542 Corner Mount Adapter
Corner mount adapter for a VDA-AD-JNB Junction Box
Order number **VG4-A-9542**

VGA-ROOF-MOUNT Roof Mount
Roof parapet mount, white
VG5-6xx/7xxx cameras require VG4-A-9543 Pipe Mount (sold separately).
NEZ-5130-/NEZ-5230- cameras require NDA-ADPTR-NPTMET (sold separately)
Order number **VGA-ROOF-MOUNT**

LTC 9230/01 Flat Roof Mount Adapter
For mounting a unit in an upright position on a flat surface for roof parapet mount VGA-ROOF-MOUNT
Order number **LTC 9230/01**

NDA-ADPTR-NPTMET NPT-Metric Adapter
NPT-to-Metric Adapter (female-to-M33 male adapter) for use with NPT1.5 pipes with pipe mount (VEZ-A5-PP) and roof mount (VGA-ROOF-MOUNT).
Order number **NDA-ADPTR-NPTMET**

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