AutoDome Junior HD PTZ Camera

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Invented for life

- ▶ HD 1080p and 720p resolutions
- ▶ 160x zoom (10x optical, 16x digital)
- ▶ Quad video streaming generates simultaneous H.264, M-JPEG, and JPEG video streams
- ▶ ONVIF conformant
- ▶ National Transportation Communications for ITS Protocol (NTCIP) conformant

AutoDome Junior HD is a rugged, extremely compact, and easy to install PTZ camera system with superb HDTV quality video. The camera features day/night functionality for high definition quality images in low light conditions.

The AutoDome Junior HD provides direct network connection using H.264 and JPEG compression and bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality. The AutoDome Junior HD provides complete network-based control of all dome functionality including pan/tilt/zoom operation, presets, tours and alarms as well as web-based configuration of all dome settings.

The AutoDome Junior HD conforms to the ONVIF (Open Network Video Interface Forum) specification guaranteeing interoperability between network video products regardless of manufacturer.

AutoDome Junior HD highlights
With a dome diameter of only 5.04 inches (12.8 cm), the AutoDome Junior HD is nearly 50% smaller than the Bosch AutoDome. These compact dimensions make the AutoDome Junior HD ideal for discrete surveillance applications.

Despite its compact design, the AutoDome Junior HD delivers state-of-the-art technology and features that are rare to most compact PTZ cameras. Its variable pan and tilt speeds and AutoPivot ensure optimal camera control and viewing at all zoom levels. The high-performance 160x (10x optical/16x digital) zoom autofocus camera incorporates the latest digital imaging technology with excellent sensitivity and resolution. With 64 user-defined presets as well as tour and AutoPan modes, the AutoDome Junior HD is not small on features.

A single AutoDome Junior HD provides as much coverage as four fixed mini domes and is priced lower than a traditional PTZ dome camera. The AutoDome Junior HD maximizes your security investment by

integrating with Bosch video products including the Bosch Recording Station, as well as the full range of Bosch video over IP products.

And, the AutoDome Junior HD is simple to install and use; available with surface, wall, recessed, and pipe mount options.

System Overview

High-performance 160x PTZ day/night camera
The AutoDome Junior HD PTZ camera has a 1/2.5-inch progressive scan CMOS sensor. With up to 1080p resolution and sensitivity to below 1.0 lux, the AutoDome Junior HD Series offers exceptional performance at a very affordable price.
The AutoDome Junior HD supports up to 64 user-defined pre-positions, as well as 1 preset tour and 1 AutoPan mode. The preset tour can be programmed with up to 64 prepositions and a configurable dwell time between positions.
Pan and tilt preset repeatability are accurate to within ±0.1 degrees to ensure that the correct scene is captured every time. AutoDome Junior HD delivers variable pan/tilt speeds from a crawl speed of only 1 degree per second up to an ultra-quick 120 degrees per second. The dome is capable of pan speeds of 360 degrees per second and tilt speeds of 100 degrees per second between prepositions. AutoDome Junior HD provides a tilt range of 0 to 94 degrees, and a pan range of up to 360 degrees continuous rotation.
The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Ultra-efficient H.264 encoding
AutoDome Junior HD uses an advanced H.264 encoder to create DVD-quality streaming video at ultra-low bit rates. Use of H.264 encoding, bandwidth throttling, and multicasting capabilities, minimizes bandwidth and storage usage to significantly reduce costs. AutoDome Junior HD supports 1080p30, 720p60, 720p30, 480p30 (WVGA), and 240p30 (WQVGA) resolutions for 50 Hz and 60 Hz models at 16:9 aspect ratio.

Multiple video streams
Bosch's innovative Quad-streaming feature enables the AutoDome Junior HD to deliver three H.264 streams together with an M-JPEG stream in full and reduced bandwidth modes. During full bandwidth operation (full HD 1080p30 or high frame rate 720p60) the second stream is an exact copy of the first stream. In reduced bandwidth mode (720p30), the second stream is an independently configurable, downscaled-resolution stream. In both modes the third H.264 stream consists of HD I-frames only. These streams facilitate bandwidth-efficient viewing and recording options as well as integration with third-party video management systems.

ONVIF conformant
The AutoDome Junior HD conforms to the ONVIF (Open Network Video Interface Forum) specification guaranteeing interoperability between network video products regardless of manufacturer. ONVIF conformant devices are able to exchange live video, audio, metadata and control information and ensure that they are automatically discovered and connected to network applications such as video management systems.

Intelligence
With built-in video content analysis, the AutoDome Junior HD reinforces the Intelligence-at-the-Edge concept where edge devices become increasingly intelligent. This camera comes with built-in MOTION+ video motion detection. This motion detection algorithm is based on pixel change and includes object size filtering capabilities and sophisticated tamper detection capabilities.

The AutoDome Junior HD also features Bosch's Intelligent Video Analysis (IVA). IVA is state-of-the-art intelligent video analysis that reliably detects, tracks, and analyzes moving objects while suppressing unwanted alarms from spurious sources in the image.

Image Stabilization
Image stabilization algorithms included with the AutoDome Junior HD reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity. Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

Rugged reliability
A heavy-duty, tamper-resistant aluminum housing protects the camera from vandalism and theft, ensuring the AutoDome Junior HD continues to deliver critical images even in the toughest environments.

As with all Bosch products, the AutoDome Junior HD has been subjected to the industry's most comprehensive and demanding battery of endurance tests such as HALT (highly accelerated life testing) to make sure it will hold up through years of use. And of course, it comes with Bosch's industry-leading 3-year warranty.

Functions

The following are some of the features that make the AutoDome Junior HD Series the perfect fit for a variety of indoor surveillance applications.

iSCSI device support
Built-in iSCSI support allows AutoDome Junior HD to stream video directly to an iSCSI RAID array. This enables efficient video storage just like a conventional

DVR without streaming high bandwidth video across the network, making system recording performance totally independent from network performance.

Network-based control and configuration
The AutoDome Junior HD enables full camera control and configuration capabilities over the network. Operators or technicians can control camera pan/tilt/zoom operation, presets, tours, and alarm management functions virtually anywhere without need for additional wiring.
The embedded web server lets the installer access all the user settings, make camera adjustments, and update firmware via a standard web browser or via the Bosch Video Management System.

Device management
Simple Network Management Protocol (SNMP) support facilitates the remote monitoring and management. AutoDome Junior HD provides full support for SNMP v3.

Cost effective coverage
It typically requires four or more fixed dome cameras to provide a full 360 degrees of surveillance coverage. Traditional PTZ dome cameras provide full coverage, but at a significantly higher cost. A single AutoDome Junior HD provides as much coverage as four fixed domes, but is priced lower than a traditional PTZ dome camera. Not only are your initial investments smaller, but installation and maintenance costs are reduced as well.

Superior privacy masking
The AutoDome Junior HD allows for a total of 15 individual, easy to configure privacy masks, with up to 15 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. You also have a choice of black, gray, or white masking characteristics.

Ease of installation and servicing
The AutoDome Junior HD has been designed for quick and easy installation; a key feature from Bosch CCTV products. The dome comes fully assembled and ready for surface mount applications. Also available are wall, recessed, and pipe mounting kits which allow the AutoDome Junior HD to be easily adapted for the individual site requirements. Available in white or charcoal.

Power over Ethernet
Power for indoor camera models may be supplied via a Power over Ethernet Plus (PoE+, IEEE 802.3at, class 4) compliant network cable connection. With this configuration, only a single cable connection is required to power and to control the camera while also viewing images from the camera.

Viewing
View the video on a PC using a Web browser or via the Bosch Video Client, the Bosch Recording Station, the Bosch Video Management System, or integrate it into another video management system.

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, 30, 50 and 60 frames/s

|	
Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	IP54 (excluding VJR-A3-IC mounting option)

ℹ **Notice**

Conformity to EN 50130-4

One of the following power supply units is required to conform to the EN 50130-4 standard: VG4-A-PSU0, VG4-A-PSU1, or VG4-A-PSU2.

Region	Certification
Europe	CE

Installation/Configuration Notes
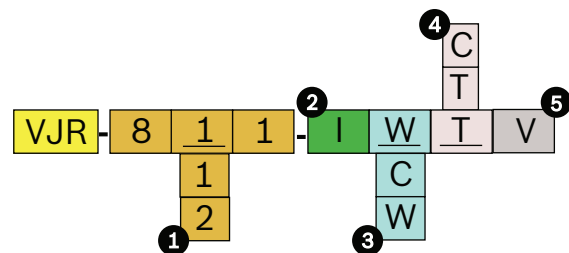
Ordering Guide

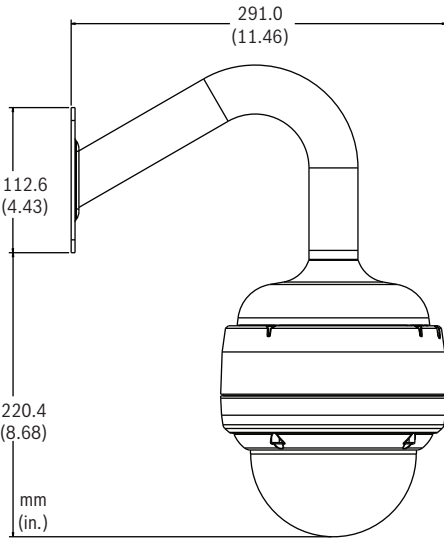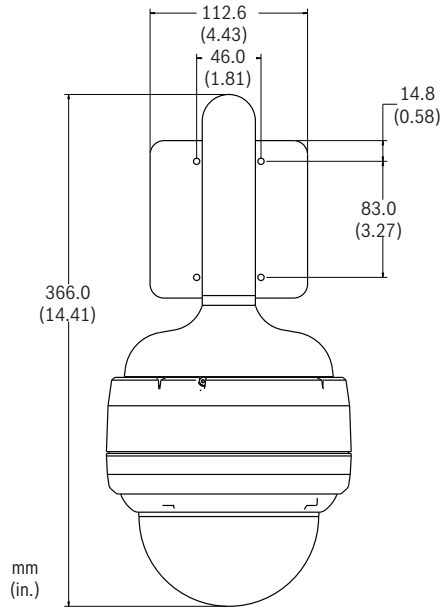| 1 Video Format		4 Bubble	
1	50 Hz	C	Clear
2	60 Hz	T	Tinted
2 Housing		**5 Intelligent Video Analysis**	

I Indoor   V IVA installed

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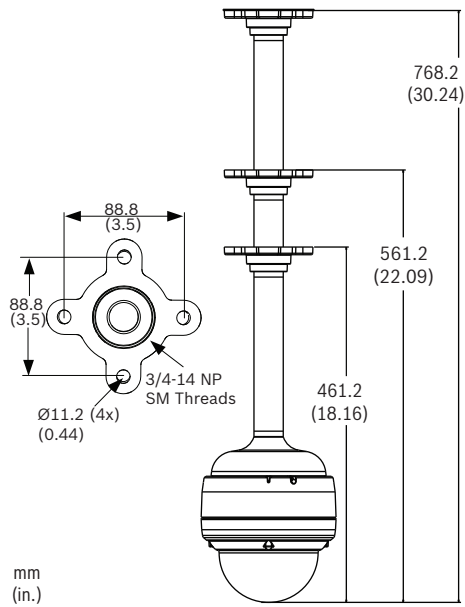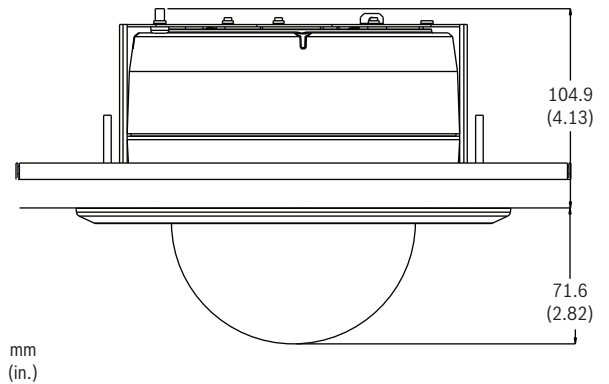
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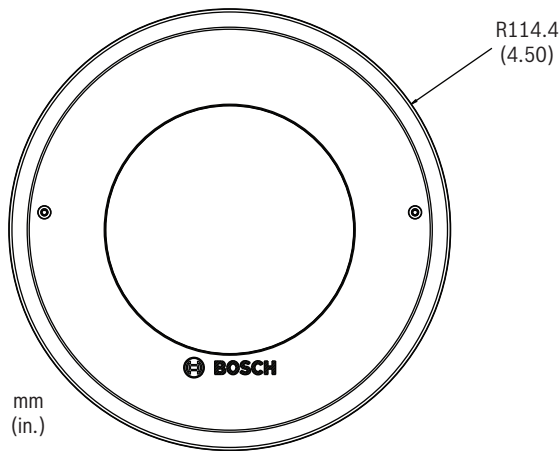
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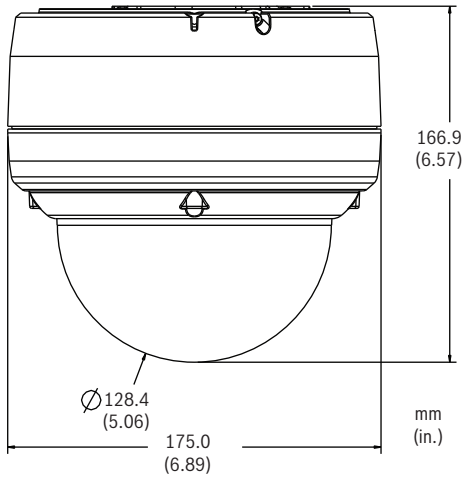
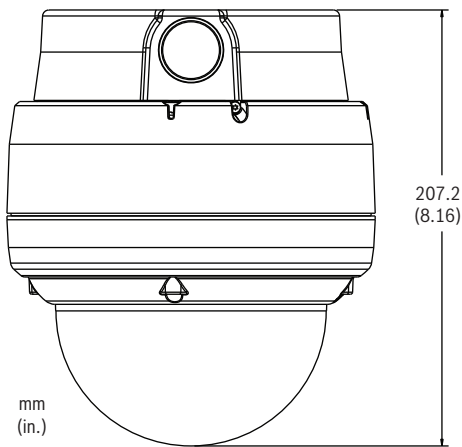AutoDome Junior HD Dimensions

Pipe Mount Dimensions

Wall Mount Dimensions

In-Ceiling / Recessed Mount Dimensions

Surface Mount Dimensions

Technical Specifications

10x HD Day/Night Camera

Imager	1/2.5 inch progressive scan CMOS
Number of Pixels	2.1 Megapixels
Aspect Ratio	16:9
Lens	10x optical zoom (6.3 to 63 mm) (F1.8/F2.5 to close)
Focus	Automatic with manual override
Iris	Automatic with manual override
Field of View	Horizontal: 5.5° to 50.6° Vertical: 3.1° to 29.3°
Automatic Gain Control	Normal, Medium, High, Fixed
Synchronization	Internal
Aperture Correction	On/Off
Digital Zoom	16x
Sensitivity(typical)[1]	**30 IRE**[2]	**50 IRE**[2]

Day Mode		
SensUP Off	1.2 lx	2.0 lx
SensUP On (64x)	0.038 lx	0.063 lx
Night Mode		
SensUP Off	0.06 lx	0.1 lx
SensUP On (64x)	0.0018 lx	0.0031 lx
Electronic Shutter Speed (AES)	1x to 64x; 1/50 (1/60) to 1/10000	
Signal to Noise Ratio	> 50 dB (AGC off)	
Wide Dynamic Range	50 dB	
Backlight Compensation	On/Off	
White Balance	ATW, Indoor, Outdoor, AWB Hold, Extended ATW, Manual (adjustable R and B signals in Manual mode)	
Day/Night	Monochrome, Color, Auto	

1. F1.8, 1/30 (1/25) shutter, maximum AGC.

2. Tinted bubble adds 0.8 f-stop loss.

Software Control

Camera Setup/Control	Via Internet Explorer Web browser version 7.0 or later, Bosch Configuration Manager, or BVMS
Software Update	Firmware upload

Network

Standards	H.264 (ISO/IEC 14496-10), M-JPEG, JPEG
Streaming	Individually configurable streams in H.264 and M-JPEG, configurable frame rate and bandwidth;
• 1080p30	One (1) H.264 1080p30 stream plus one (1) M-JPEG and one (1) I-frame stream
• 720p60	One (1) H.264 720p60 stream plus one (1) M-JPEG and one (1) I-frame stream
• 720p30	Two (2) independently configurable H.264 streams: One (1) H.264 720p30 stream, One (1) H.264 BP+ or H.264 MP SD stream, plus one (1) M-JPEG and one (1) I-frame stream
GOP Structure	IP, IBP, IBBP
Data Rate	9.6 kbps to 6 Mbps
Overall IP Delay	240 ms
Audio	G.711 (8 bits @ 8KHz) L16 (16 bits @ 16 kHz PCM)

Resolutions (H x V) and Frame Rates

Stream 1

• Full HD/1080p	1920 x 1080, 30 ips
• HD/720p	1280 x 720, 60 ips
• HD/720p	1280 x 720, 30 ips

Stream 2[3]

• SD/480p (WVGA)[4]	854 x 480, 30 ips
• SD/240p (WQVGA)[4]	432 x 240, 30 ips

3. Stream 1 must be set to 720p at 30 ips.

4. Images displayed in 16:9 aspect ratio.

Network

Protocols	RTP, Telnet, UDP, TCP, IP, HTTP, HTTPS, FTP, DHCP, IGMP V2/V3, ICMP, ARP, SMTP, SNTP, SNMP, RTSP, 802.1x, iSCSI, DynDNS, UPnP
NTCIP Protocols	
• CCTV Camera Control	NTCIP 1205
• Application Layer	SNMP per NTCIP 1101:1996 & NTCIP 2301
• Transport/ Network Layers	TCP/IP per NTCIP 2202:2001
• Sub-network Layer	PMPP (Point to Multi-Point Protocol) per NTCIP 2101:2001 & NTCIP 2102:2003
Ethernet	10-Base T/100 Base-TX, auto-sensing, half/full duplex, RJ45
PoE+	IEEE 802.3at, class 4

Mechanical/Electrical

Pan Range	0–360° continuous
Tilt Angle	0–93.6°
Variable Speed	Pan: 1°/s to 120°/s Tilt: 1°/s to 100°/s
Pre-position Speed	Pan:360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typical
Rated Voltage	24 VAC ± 10%, 50/60 Hz or PoE+ (IEEE 802.3at, class 4)
Power Draw	17 W typical

Environmental

Operating Temperature	−10℃ to 40℃ (14°F to 104°F)
Storage Temperature	−20℃ to 60℃ (−4°F to 140°F)
Operating Humidity	0% to 90% relative, non-condensing

Miscellaneous

Sectors/Titling	Eight (8) independent sectors with 20-character titles/sector
Masking	Fifteen (15) individually configurable privacy masks
Protocol Support	Bosch (OSRD), ONVIF
Pre-positions	64, each with 20-character titles
Preset Tour	One (1), consisting of up to 64 scenes, consecutively
Supported Languages	English, German, Dutch, French, Italian, Spanish, Portuguese, Polish, Russian, Chinese, and Japanese

User Connections

Power	
• PoE+, Indoor Models	RJ-45 100 Base-TX Ethernet PoE+ IEEE 802.3at, class 4
• Camera, All Models	24 VAC, 50/60 Hz
Video and Control	RJ-45 100 Base-TX Ethernet
Alarm Input (2)	NC/NO
Alarm Output	Open collector NPN 32 VDC @ 150 mA max
Audio Input Line Level (one way audio)	
• Input Voltage	5.5 Vp-p max
• Impedance	9 Kohm typical

Construction

Size (Diameter x Height)	153.0 x 133.0 mm (6.02 x 4.61 in.)
Bubble Size	128.0 mm (5.04 in.)
Weight	1.92 kg (4.24 lb)
Material	
• Housing	Cast aluminum
• Bubble	Acrylic
Color	White or Charcoal

Ordering Information

VJR-821-ICCV Indoor 10x AutoDome Junior HD with IVA, Charcoal, Clear Bubble, 60 Hz
Indoor AutoDome Junior HD with IVA, charcoal, 10x day/night, 60 Hz camera with clear bubble
Order number **VJR-821-ICCV**

VJR-811-ICCV Indoor 10x AutoDome Junior HD with IVA, Charcoal, Clear Bubble, 50 Hz
Indoor AutoDome Junior HD with IVA, charcoal, 10x day/night, 50 Hz camera with clear bubble
Order number **VJR-811-ICCV**

VJR-821-IWCV Indoor 10x AutoDome Junior HD with IVA, White, Clear Bubble, 60 Hz
Indoor AutoDome Junior HD with IVA, white, 10x day/night, 60 Hz camera with clear bubble
Order number **VJR-821-IWCV**

VJR-811-IWCV Indoor 10x AutoDome Junior HD with IVA, White, Clear Bubble, 50 Hz
Indoor AutoDome Junior HD with IVA, white, 10x day/night, 50 Hz camera with clear bubble
Order number **VJR-811-IWCV**

VJR-821-ICTV Indoor 10x AutoDome Junior HD with IVA, Charcoal, Tinted Bubble, 60 Hz
Indoor AutoDome Junior HD with IVA, charcoal, 10x day/night, 60 Hz camera with tinted bubble
Order number **VJR-821-ICTV**

VJR-811-ICTV Indoor 10x AutoDome Junior HD with IVA, Charcoal, Tinted Bubble, 50 Hz
Indoor AutoDome Junior HD with IVA, charcoal, 10x day/night, 50 Hz camera with tinted bubble
Order number **VJR-811-ICTV**

VJR-821-IWTV Indoor 10x AutoDome Junior HD with IVA, White, Tinted Bubble, 60 Hz
Indoor AutoDome Junior HD with IVA, white, 10x day/night, 60 Hz camera with tinted bubble
Order number **VJR-821-IWTV**

VJR-811-IWTV Indoor 10x AutoDome Junior HD with IVA, White, Tinted Bubble, 50 Hz
Indoor AutoDome Junior HD with IVA, white, 10x day/night, 50 Hz camera with tinted bubble
Order number **VJR-811-IWTV**

Accessories

VJR-A3-IC AutoDome Junior HD Indoor In-ceiling Mount
Order number **VJR-A3-IC**

VJR-A3-SP In-ceiling Support Kit for AutoDome 700/800 Series and AutoDome Junior HD
Suspended ceiling support kit for AutoDome 700 and 800 Series and AutoDome Junior HD In-ceiling mounts
Order number **VJR-A3-SP**

VEZ-A2-JC Surface Mount Adapter
Charcoal adapter for AutoDome Junior surface installations
Order number **VEZ-A2-JC**

VEZ-A2-JW Surface Mount Adapter
White adapter for AutoDome Junior surface installations
Order number **VEZ-A2-JW**

VEZ-A2-PC AutoDome Junior Pipe Mount
Charcoal
Order number **VEZ-A2-PC**

VEZ-A2-PW AutoDome Junior Pipe Mount
White
Order number **VEZ-A2-PW**

VEZ-A2-WC AutoDome Junior Wall Mount
Charcoal
Order number **VEZ-A2-WC**

VEZ-A2-WW AutoDome Junior Wall Mount
White
Order number **VEZ-A2-WW**

VJR-SBUB2-CL AutoDome Junior HD Clear Bubble
Order number **VJR-SBUB2-CL**

VJR-SBUB2-TI AutoDome Junior HD Tinted Bubble
Order number **VJR-SBUB2-TI**

VJR-A3-IC54 AutoDome Junior HD Plenum-rated In-ceiling Mount
Order number **VJR-A3-IC54**

VG4-A-PSU0 24 VAC Power Supply Unit
24 VAC, 100 W, white, for an AutoDome Series camera
Order number **VG4-A-PSU0**

VG4-A-PSU1 120 VAC Power Supply Unit
120 VAC, 100 W, white, for an AutoDome Series camera
Order number **VG4-A-PSU1**

VG4-A-PSU2 230 VAC Power Supply Unit
230 VAC, 100 W, white, for an AutoDome Series camera
Order number **VG4-A-PSU2**

Software Options

VP-CFGSFT Configuration Tool for Imaging Devices
Camera configuration software for use with Bilinx cameras
Order number **VP-CFGSFT**

MVC-FIVA4-CAM
IVA 4.x VCA software license for IP camera/dome (e-license)
Order number **MVC-FIVA4-CAM**

MVS-FENC-AES BVIP AES 128 Bit Encryption
BVIP AES 128-bit encryption site license. This license is required only once per installation. It enables encrypted communication between BVIP devices and management stations.
Order number **MVS-FENC-AES**