


BOSCH

Invented for life

AutoDome 800 Series HD PTZ Camera System



- ▶ **HD 1080p resolution at 30 images per second (ips)**
- ▶ **200x zoom (20x optical, 10x digital)**
- ▶ **Quad video streaming generates simultaneous H.264, M-JPEG, and JPEG video streams**
- ▶ **ONVIF conformant; provides interoperability with other conformant systems**
- ▶ **National Transportation Communications for ITS Protocol (NTCIP) conformant**
- ▶ **Embedded Intelligent Video Analytics (IVA) for reliable detection, tracking, analysis, and search capabilities**
- ▶ **High-impact, heavy-duty, tamper resistant aluminum housing with the protection of a rugged acrylic bubble**
- ▶ **High-speed 360-degree continuous pan**
- ▶ **Preset tour and AutoPan modes**

The AutoDome 800 Series is an easy to install, outdoor PTZ camera system with superb HDTV 1080p30 quality video. The camera features day/night functionality for high definition quality images in low light conditions. This discrete, high-speed dome camera has an IP66 rating ensuring reliable uncompromised functionality even in dusty and potentially wet environments.

The AutoDome 800 Series 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 800 Series 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 800 Series conforms to the ONVIF (Open Network Video Interface Forum) specification guaranteeing interoperability between network video products regardless of manufacturer.

AutoDome 800 Series highlights

The AutoDome 800 Series delivers state-of-the-art technology and features that far exceed other PTZ cameras. The camera streams high-definition video with 20x optical zoom in a field-proven outdoor housing.

720p resolution at 60 images per second provides smooth, detailed video of fast moving objects. 1080p resolution at 30 images per second delivers six times the detail level of standard definition cameras, ensuring crisp video even when zooming in digitally to extend the camera's range. In addition, the 16:9 aspect ratio increases situational awareness by maximizing the field of view without compromising image clarity.

Its variable pan and tilt speeds and AutoPivot ensure optimal camera control and viewing at all zoom levels. The high-performance 200x (20x optical/10x digital) zoom autofocus camera incorporates the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 800 Series is not small on features.

The AutoDome 800 Series maximizes your security investment by integrating with Bosch video products including the Bosch Video Client and the Bosch Recording Station, as well as the full range of Bosch video over IP products.

And, the AutoDome 800 Series is simple to install and use; available with wall, corner, mast, and pipe mount options.

System Overview

High-performance 200x PTZ day/night camera

The AutoDome 800 Series camera has a 1/3-in.-type CMOS sensor, with 1080p resolution and sensitivity to below 1.0 lux.

The AutoDome 800 Series supports up to 99 user-defined pre-positions, as well as one (1) preset tour and one (1) AutoPan mode. The preset tour can be programmed with up to 99 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. The AutoDome 800 Series delivers variable pan/tilt speeds from a crawl speed of only 0.1 degrees 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. The AutoDome 800 Series 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

The AutoDome 800 Series 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. The AutoDome 800 Series 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 800 Series 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 800 Series 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 800 Series 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 800 Series 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.

Fiber Optic Kits

The VG4-SFPSCKT is a unique media converter module for use with VG5 800 Series AutoDomes. This media converter module is designed to accept any of the 10/100 Mbps SFP modules described below.

The media converter module along with the SFP module is user installed directly into the AutoDome's power supply box to provide an integrated fiber optic solution.

Unsurpassed reliability

The AutoDome 800 outdoor pendant housings are rated to provide IP 66 protection and to provide an operating temperature range down to -45°C (-49°F). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. All housings feature recessed screws and latches for increased tamper resistance.

As with all Bosch products, the AutoDome 800 Series 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 800 Series the perfect fit for a variety of surveillance applications.

Inputs and outputs

The AutoDome 800 Series can handle two (2) alarm inputs and one (1) open-collector alarm output, which can drive an external device.

iSCSI device support

Built-in iSCSI support allows the AutoDome 800 Series to stream video directly to an iSCSI RAID array. This enables efficient video storage and overall system scalability without compromise to recording performance when paired with suitable iSCSI storage arrays.

Network-based control and configuration

The AutoDome 800 Series 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.

Device management

Simple Network Management Protocol (SNMP) support facilitates the remote monitoring and management. The AutoDome 800 Series provides full support for SNMP v3.

Superior privacy masking

The AutoDome 800 Series provides 24 individual, easy to configure privacy masks, with up to 24 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 or gray masking characteristics.

Ease of installation and servicing

The AutoDome 800 Series has been designed for quick and easy installation; a key feature from Bosch CCTV products. The dome comes fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). Also available are corner, mast, and roof mounting kits which allow the AutoDome 800 Series to be easily adapted to the individual site requirements. You can easily convert the dome for indoor applications by removing the sunshield.

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.

- 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	IP66

Parts Included

Quant. Component

1	Fully assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear

Notes:

- The pendant can be converted to an indoor pendant by removing the sunshield.
- Mounting hardware and accessories are available separately.

Technical Specifications

20x HD Day/Night Camera

Imager	1/3-in.-type CMOS
Number of Pixels	Approximately 2 megapixels
Aspect Ratio	HD: 16:9
Lens	20x optical zoom, (4.7 to 94 mm)
Focus	Automatic (normal, low), One-push, Manual
Iris	Automatic with manual override (F1.6 to F3.5)
Field of View	3° (tele) to 55° (wide)
Minimum Working Distance	10 mm (wide) to 150 mm (tele)
Automatic Gain Control	Automatic/Manual (-3 to 28 dB, 21 steps)
Synchronization	Internal
Aperture Correction	Adjustable sharpness
Digital Zoom	10x
Sensitivity (typical) ¹	30 IRE² 50 IRE²

Certifications and Approvals

HD standards

Complies with the SMPTE 274M-2008 Standard in:

Day Mode

SensUP Off (1/30 [1/25] shutter); High Sensitivity Off	0.8 lux (0.074 fc)	1.7 lux (0.158 fc)
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SensUP On, max. (0.25 sec. shutter); High Sensitivity On ³	0.04 lux (0.004 fc)	0.08 lux (0.007 fc)
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Night Mode

SensUP Off (1/30 [1/25] shutter); High Sensitivity Off	0.12 lux (0.011)	0.3 lux (0.028 fc)
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SensUP On, max. (0.25 sec. shutter); High Sensitivity On ³	0.005 lux (.0005 fc)	0.011 lux (.001 fc)
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Electronic Shutter Speed (AES)	1/1 to 1/10000 s, 21 steps
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Signal to Noise Ratio	> 50 dB (AGC off)
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Backlight Compensation	On/Off
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White Balance	ATW, Indoor, Outdoor, AWB Hold, Extended ATW, Manual
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Day/Night	Monochrome, Color, Auto
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1. F1.6, maximum AGC. Normal light source (Halogen lamp).

2. Tinted bubble adds 0.8 f-stop loss.

3. Measured using ND1 + ND4 filters and recalculated with the transmission factor at 0.0025.

Software Control

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

Standards	H.264 (ISO/IEC 14496-10), M-JPEG, JPEG
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Streaming	Individually configurable streams in H.264 and M-JPEG, configurable frame rate and bandwidth;
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- 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
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Data Rate	9.6 kbps to 6 Mbps
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Overall IP Delay	240 ms
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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 2⁴

- SD/480p (WVGA)⁵ 854 x 480, 30 ips
- SD/240p (WQVGA)⁵ 432 x 240, 30 ips

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

5. 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
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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
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Fiber Optic Specifications**VG4-SFPSCKT**

Description	Fiber Optic Ethernet Media Converter kit. Requires a small form-factor pluggable (SFP) module (sold separately).
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Data Interface	Ethernet
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Data Rate	10/100 Mbps IEEE 802.3 Compliant Full Duplex or Half Duplex Electrical Port Full Duplex Optical Port
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Compatible Receiver	CNFE2MC
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Installation	Installed inside a VG4-A-PA0, VG4-A-PA1, VG4-A-PA2, VG4-A-PSU1, VG4-A-PSU2, VG4-SBOX-24VAC, VG4-SBOX-120VAC, or a VG4-SBOX-230VAC power supply box with supplied mounting hardware
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SFP Modules

Description	Interchangeable modules available for use with MMF or SMF optical fiber.
Data Interface	Ethernet
Data Rate	10/100 Mbps IEEE 802.3 Compliant

Mechanical

Dimensions (LxWxH)	
• SFP-2 and SFP-3	55.5 x 13.5 x 8.5 mm (2.2 x 0.5 x 0.3 in.)
• SFP-23, SFP-24, SFP-25, SFP-26	63.8 x 13.5 x 8.5 mm (2.5 x 0.5 x 0.3 in.)
Weight (all SFP modules)	0.23 kg (.05 lb)

	Type	Connector	Wavelength (transmit/receive)	Max. Distance
SFP-2	MMF	Duplex LC	1310 nm / 1310 nm	2 km (1.2 miles)
SFP-3	SMF	Duplex LC	1310 nm / 1310 nm	20 km (12.4 miles)
SFP-23	SMF	Single SC	1310 nm / 1550 nm	60 km (37.3 miles)
SFP-24	SMF	Single SC	1550 nm / 1310 nm	60 km (37.3 miles)
SFP-25	MMF	Single SC	1310 nm / 1550 nm	2 km (1.2 miles)
SFP-26	MMF	Single SC	1550 nm / 1310 nm	2 km (1.2 miles)

Fiber Compatibility

Optical Fiber Compatibility, MMF	50/125 μ m MMF. For 50/125 μ m fiber, subtract 4 dB from the specified optical budget value. Must meet or exceed fiber standard ITU-T G.651.
Optical Fiber Compatibility, SMF	8–10/125 μ m SMF. Must meet or exceed fiber standard ITU-T G.652.
Optical Distance Specifications	Specified transmission distances are limited to the optical loss of the fiber and any additional loss introduced by connectors, splices, and patch panels. The modules are designed to operate over the entire optical loss budget range, so they do not require a minimum loss in order to operate.

Mechanical

Pan Range	360° cont.
Tilt Angle	18° above horizon
Variable Speed	0.1°/s–120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	\pm 0.1° typ.

Electrical

Input Voltage	
• Camera	24 VAC \pm 10%, 50/60 Hz
• Heater	24 VAC \pm 10%, 50/60 Hz
Power Draw (typical)	55 W / 60 VA

Miscellaneous

Sectors/Titling	16 independent sectors with a 20-character title/sector
Masking	24 individually configurable privacy masks
Protocol Support	Bosch (OSRD), ONVIF
Pre-positions	99, each with 20-character titles
Preset Tours	One (1), consisting of up to 99 scenes, consecutively
Supported Languages	English, German, Dutch, French, Italian, Spanish, Portuguese, Polish, and Japanese

User Connections

Power, Camera	21–30 VAC, 50/60 Hz
Power, Heater	21–30 VAC, 50/60 Hz
Video and Control	RJ-45 100 Base-TX Ethernet
Audio Line In	9 K Ohm typ, 5.5 Vp-p max
Alarm Inputs (2)	Programmable for “normally open” or “normally closed”
Open Collector Output (1)	32VDC@150 ma max

Environmental

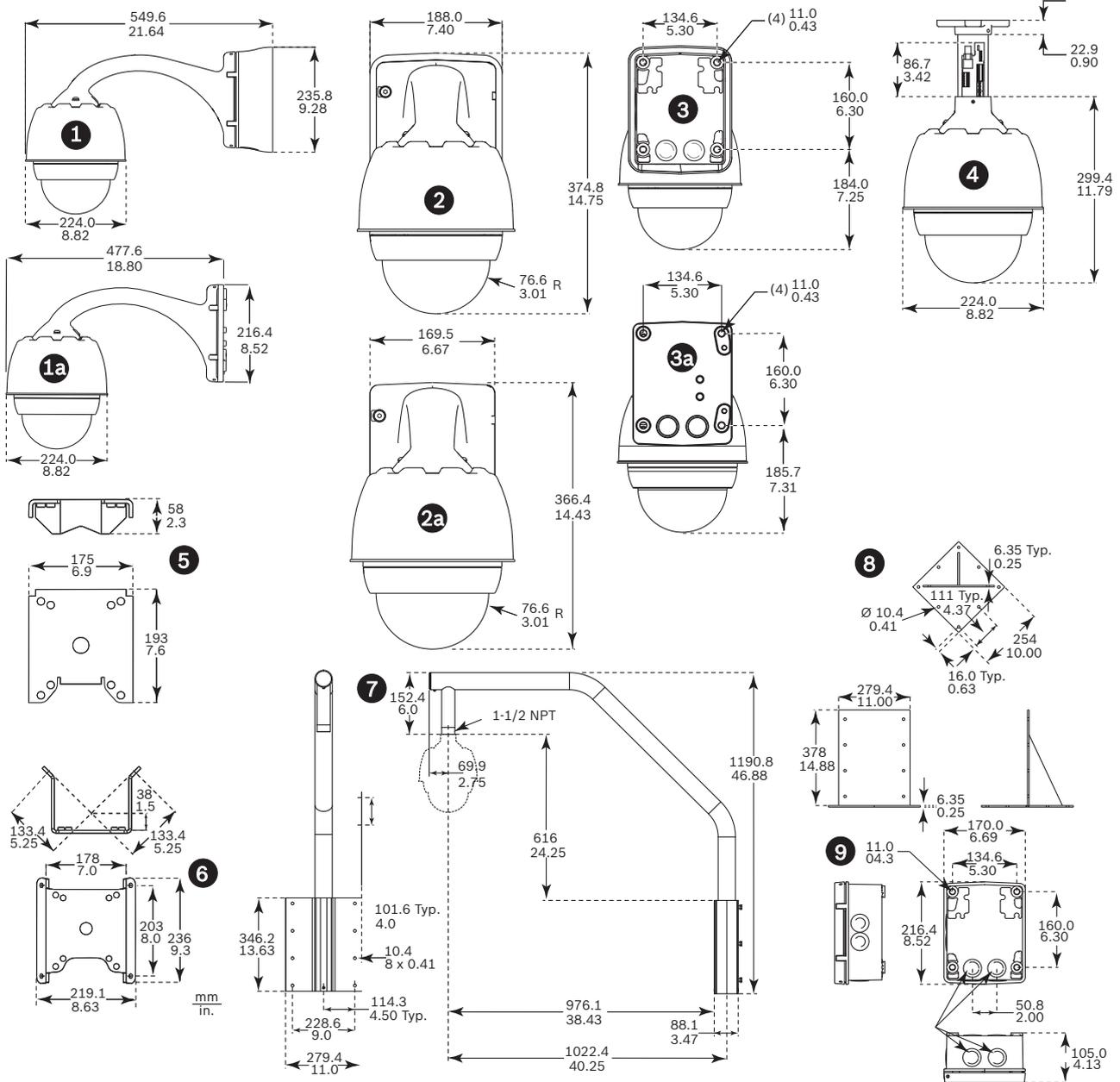
Operating Temperature	–45°C to 55°C (–49°F to 131°F)
HALT ⁶ Temperature Tests	–70°C to 70°C (–94°F to 158°F)
Storage Temperature	–45°C to 70°C (–49°F to 158°F)
Operating Humidity	0% to 100% relative, condensing

6. Highly Accelerated Life Tests. Maximum temperature limits.

Construction

Dimensions	See dimensional drawings
Weight	3.03 kg (6.68 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Acrylic
Standard Color	White (RAL9003)

Dimensional Drawings



Outdoor System Dimensions

Reference Description

1	Wall Mount – Side with power supply and trim skirt
1a	Wall/Mast Mount – Side with VG4-ARMPLATE
2	Wall Mount – Front with power supply and trim skirt
2a	Wall Mount – Front with power supply
3	Wall Mount – Back with power supply and trim skirt

Reference Description

3a	Wall Mount – Back with power supply
4	Pipe Mount
5	Mast Mount
6	Corner Mount
7	Roof Mount

Reference	Description
8	Roof Mount Adapter
9	Power Supply for Pipe and Roof Mounts

Ordering Information

VG5-825-ECEV Outdoor 20x AutoDome 800 Series HD with IVA, Clear Bubble, 50/60 Hz Outdoor AutoDome 800 Series HD with IVA, 20x day/night, 50/60 Hz camera with clear bubble	VG5-825-ECEV
VG5-825-EDEV Outdoor 20x AutoDome 800 Series HD with IVA, Tinted Bubble, 50/60 Hz Outdoor AutoDome 800 Series HD with IVA, 20x day/night, 50/60 Hz camera with tinted bubble	VG5-825-EDEV
Accessories	
VG4-SBUB-PCH-A High-resolution Chrome Bubble for Pendant Housing Chrome high-resolution bubble for a VG4 or VG5 Series AutoDome pendant housing	VG4-SBUB-PCH-A
VG4-SBUB-PCL-A High-resolution Clear Bubble for a Pendant Housing Clear high-resolution bubble for a VG4 or VG5 Series AutoDome pendant housing	VG4-SBUB-PCL-A
VG4-SBUB-PGL-A High-resolution Gold Bubble for Pendant Housing Gold high-resolution bubble for a VG4 or VG5 Series AutoDome pendant housing	VG4-SBUB-PGL-A
VG4-SBUB-PTI-A High-resolution Tinted Bubble for a Pendant Housing Tinted high-resolution bubble for a VG4 or VG5 Series AutoDome pendant housing	VG4-SBUB-PTI-A
LTC 9230/01 Flat Roof Mount Adapter For mounting a unit in an upright position on a flat surface for roof parapet mount VG4-A-9230	LTC 9230/01
VG4-A-9230 Roof Mount Roof mount, white, for a VG4 or VG5 Series AutoDome	VG4-A-9230
VG4-A-9541 Pole Mount Adapter Pole mount adapter for a for a VG4 or VG5 Series AutoDome pendant arm, designed for poles with a diameter of 100-380 mm (4-15 in.), white	VG4-A-9541
VG4-A-9542 Corner Mount Adapter Corner mount adapter for a VG4 or VG5 Series AutoDome pendant arm	VG4-A-9542
VG4-A-9543 Pipe Mount Pipe mount, white, for a VG4 or VG5 Series AutoDome	VG4-A-9543
VG4-A-PA0 Pendant Arm Mount Pendant arm mount for a VG4 or VG5 Series AutoDome, no transformer, white	VG4-A-PA0

Ordering Information

VG4-A-PA1 Pendant Arm Mount with 120 VAC Transformer Pendant arm mount for a VG4 or VG5 Series AutoDome with a 120 VAC transformer, white	VG4-A-PA1
VG4-A-PA2 Pendant Arm Mount with 230 VAC Transformer Pendant arm mount for a VG4 or VG5 Series AutoDome with a 230 VAC transformer, white	VG4-A-PA2
VG4-A-PSU1 120 VAC Power Supply Unit 120 VAC, 100 W, NEMA-rated, white, for a VG4 or VG5 Series AutoDome	VG4-A-PSU1
VG4-A-PSU2 230 VAC Power Supply Unit 230 VAC, 100 W, NEMA-rated, white, for a VG4 or VG5 Series AutoDome	VG4-A-PSU2
VG4-A-ARMPLATE Mounting Plate Mounting plate for VG4-SARM, compatible with a VG4 or VG5 Series AutoDome	VG4-A-ARMPLATE
VG4-SARM Pendant Arm with Wiring Compatible with a VG4 or VG5 Series AutoDome	VG4-SARM
VG4-SBOX-24VAC Power Supply Box Box without cover or transformer for a VG4 or VG5 Series AutoDome	VG4-SBOX-24VAC
VG4-SBOX-120VAC Power Supply Box Box, without cover, with a 120 VAC transformer for a VG4 or VG5 Series AutoDome	VG4-SBOX-120VAC
VG4-SBOX-230VAC Power Supply Box Box, without cover, with a 230 VAC transformer for a VG4 or VG5 Series AutoDome	VG4-SBOX-230VAC
VG4-SBOX-COVER Cover for Power Supply Box Cover for VG4-SBOX-24VAC, VG4-SBOX-120VAC, VG4-SBOX-230VAC, VEI-30, and NEI-30 junction box	VG4-SBOX-COVER
VG4-A-TSKIRT Trim Skirt for VG4 Series Power Supply Boxes Trim skirt for the following VG4 and VG5 Series power supply boxes: VG4-A-PSU0F, VG4-A-PSU1, VG4-A-PSU1F, VG4-A-PSU2, VG4-A-PSU2F, VG4-SBOX-24VAC, VG4-SBOX-120VAC, and VG4-SBOX-230VAC	VG4-A-TSKIRT
VG4-SFPSCKT Fiber Optic Ethernet Media Converter Kit Ethernet media converter video transmitter/data receiver fiber optic kit	VG4-SFPSCKT
Software Options	
MVC-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.	MVC-FENC-AES

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