

# AUTODOME IP starlight 7000 HD

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**BOSCH**  
Invented for life



- ▶ High-resolution, 720p HD PTZ camera with high-performance 30x zoom lens for capturing fine details in scenes with extremely low illumination level
- ▶ Intelligent Tracking and alarm rules engine with on-board Intelligent Video Analytics (IVA)
- ▶ Enhanced system flexibility with dual recording options (iSCSI, SD card) and dual power source options (High Power over Ethernet (High PoE) / 24 VAC)
- ▶ Fully configurable quad streaming with individually configurable streams, based on Bosch's Common Product Platform (CPP4)
- ▶ Easy and intuitive installation with multiple preconfigured user modes that allow users to select the camera configuration that is ideal for their applications

The AUTODOME IP starlight 7000 HD is an easy to install, high-speed PTZ dome camera, in a field-proven indoor/outdoor pendant housing or indoor in-ceiling housing, that delivers unmatched picture quality and network performance day and night with superb high-definition (HD) 720p50/60 video and 30x optical zoom.

The camera 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. It also provides direct network video streaming using H.264 compression / bandwidth throttling to efficiently manage bandwidth and storage requirements while delivering outstanding image quality.

## Functions

### High-performance starlight PTZ camera

#### Starlight Technology

Extreme low-light sensitivity makes this camera an exceptional performer in all lighting conditions. In low light, the camera automatically switches from color to monochrome by removing the IR filter to boost sensitivity, while maintaining superior image quality. For operation in the darkest conditions, automatic control of shutter speeds increases sensitivity by more than 50 times.

Starlight models have a 720p60 imaging platform with starlight technology. The camera produces detailed video images in scenes with limited ambient lighting, without any motion blur associated with cameras that use slow shutters. The camera has been tuned to deliver high-quality HD video in both day and night operation.

### 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). Images under these conditions may 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.

### Five (5) pre-programmed user modes

Five pre-programmed but configurable user modes, optimized with the best settings for a variety of typical applications, make on-site programming easy and user-friendly. Users select from the menu the mode that best defines the environment in which the camera is installed:

- Outdoor – General day-to-night changes with sun highlights and street lighting
- Indoor – Ideal mode for indoor applications where lighting is constant and not changing
- Low light – Optimized for sufficient details at low light
- Motion – Monitoring traffic or fast moving objects; motion artifacts are minimized
- Vibrant – Enhanced contrast color reproduction and sharpness

Users have the ability to customize these modes, if necessary, for the specific requirements of the site.

### Image Stabilization

As PTZ cameras continue to increase their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. Minor movement of the camera mount can shift the field of view by a large distance when the camera is zoomed to a high value. This can render images unusable. The camera incorporates an Image Stabilization algorithm that allows the camera to detect continuous vibration. If it detects vibration, the camera dynamically corrects the shaky video in both the vertical and horizontal axis, resulting in exceptional image clarity and a stable field of view on the monitor.

### Superior privacy masking

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.

### Sophisticated alarm responses

The camera supports advanced alarm control that uses sophisticated rules-based logic to determine how to manage alarms. In its most basic form, a “rule” could define which input(s) should activate which output(s). In a more complex form, inputs and outputs can be combined with pre-defined or user-specified commands to perform advanced camera functions.

### PTZ drive and mechanism

The AUTODOME 7000 supports 256 pre-positions and two styles of Guard Tours: Preset and Record/Playback. Users can configure the preset standard tour with as many as 256 sequential pre-positions, with a configurable dwell time between pre-positions. The AUTODOME Series also provides support for two recorded tours, which are recorded macros of an operator’s movements, including pan, tilt, and zoom activities, and can be played back with the click of a button.

Pan and tilt preset repeatability are accurate to within  $\pm 0.1$  degrees to ensure that the correct scene is captured every time. The camera delivers variable pan/tilt speeds from a crawl speed of only 0.1 degrees per second to a full 400 degrees per second. The camera is capable of pan speeds of 400 degrees per second and tilt speeds of 300 degrees per second between prepositions. The camera provides a tilt angle 18 degrees above the horizon, and a pan range of up to 360 degrees continuous rotation.

### Content-Based Imaging Technology

Content-Based Imaging Technology (C-BIT) is used to radically improve image quality in all lighting conditions and to identify areas for enhanced processing. The camera examines the scene using intelligent video analytics and provides feedback to re-tune the image processing. This provides better detail in the areas that matter and better all-round performance. The intelligent, automatic anti fog technology, for example, allows you to view video clearly through a foggy scene or can improve contrast in dark areas of a scene.

### iDNR reduces bandwidth and storage requirements

The camera uses intelligent Dynamic Noise Reduction (iDNR) which actively analyzes the contents of a scene and reduces noise artifacts accordingly. The low-noise image and the efficient H.264 compression technology combine to provide clear images while reducing bandwidth and storage by up to 30% 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.

### Anti-fog

With the anti-fog mode feature, visibility can be improved significantly when viewing foggy or other low-contrast scenes. 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).

### Intelligence

With built-in Intelligent Video Analysis (IVA), the camera reinforces the concept of Intelligence at the Edge. IVA is Bosch’s state-of-the-art intelligent video content analysis technology. With IVA, the camera

reliably detects and analyzes moving objects while suppressing unwanted alarms from spurious sources in the image. IVA also allows the camera to detect multiple object behaviors including idle and removed objects, loitering, multiple line crossing, and trajectories. IVA supports BEV (Bird's-Eye-View) People Counter and Assisted Self-Calibration. Configurable detection filters improve reliability and reduce operator work load.

### Intelligent Tracking

The camera utilizes the built-in Intelligent Video Analytics (IVA) to follow an individual or an object continuously. Objects detected by IVA in a stationary position activate the Intelligent Tracking feature, which controls the pan/tilt/zoom actions of the camera to keep the tracked object in the scene. The new tracking feature is based on robust flow detection algorithms which can reliably track moving objects even under challenging scenes. The tracking and detection reliability can be enhanced further with virtual masking for scenes with a lot of background "noise" such as trees or other objects creating constant motion in the scene. The camera supports three modes for Intelligent Tracking.

- **Auto mode:** When configured in this mode, the camera actively analyzes the video to detect any moving object. If it detects movement, it begins to track the object. This mode is most useful for scenarios where no motion is expected in the scene.
- **Click mode:** In this mode, users can click an object moving in the live video image to enable the camera to track the movement of the selected object. This mode is most useful for scenarios where normal scene activity is expected.
- **IVA-triggered mode:** In this mode, the camera continuously analyzes the scene for IVA alarms or IVA rule violations. If an IVA rule is violated, it triggers the advanced tracking feature of the camera to start following the object / person that triggered the alarm. This unique combination of robust IVA and Intelligent Tracking allows the camera to track moving objects of interest without getting distracted by other moving objects in the scene.

### Virtual masking

The camera offers Virtual Masking, which gives users flexibility to mask parts of the scene which should not be considered for flow analysis to trigger Intelligent Tracking. This allows users to mask background motion in the scene such as moving trees, pulsating lights, busy roads from IVA/Tracking without blocking it from the video.

### Common product platform (CPP4)

The camera has an advanced, efficient H.264 encoder (CPP4) embedded for high quality HD streaming video and very efficient streaming and network capabilities.

The new platform supports simultaneous streaming of individually configurable HD streams, and allows a choice of HD resolution in combination of SD resolutions.

### 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 the most efficient and powerful H.264 encoding platform capable of delivering high-quality HD video with very low network load. The new intelligent encoding capabilities drops 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 constrained bandwidths.

### Recording and storage management

A memory card (SD (Secure Digital), SDHC (Secure Digital High Capacity), or SDXC (Secure Digital eXtended Capacity)) 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.

### ONVIF conformant

The camera conforms to the ONVIF (Open Network Video Interface Forum) specification which guarantees interoperability between network video products regardless of manufacturer. The ONVIF Profile S specification allows easy integration with the conformant devices and VMS. 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.

### Video management system support

The camera ships with Bosch Video Client (BVC), an easy-to-use software from Bosch that is suitable for midsize installations. For large enterprise systems, AUTODOME cameras can be used with Bosch Video Management System (BVMS), which allows enhanced video management and viewing capabilities.

In addition, the camera is supported/integrated into all of the leading third party video management systems.

### Ease of installation and servicing

The camera has been designed for quick and easy installation; a key feature from Bosch CCTV products. All housings feature recessed screws and latches for increased tamper resistance.

Indoor/outdoor pendant housings are rated to provide IP66 protection and offer an operating temperature range down to -40 °C (-40 °F). The indoor/outdoor

pendant comes fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (sold separately). In addition, the camera models with both pendant and in-ceiling housing come equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. You can easily convert the outdoor pendant for indoor applications by removing the sunshield. Bosch offers a full complement of hardware and accessories (sold separately) for wall, corner, mast, roof, pipe mount, and in-ceiling applications for indoor and outdoor environments, which allow the camera to be adapted easily to individual site requirements.

### Dual power options

All models can be powered by a High Power-over-Ethernet (Bosch High PoE)-compliant network using a Bosch High PoE Midspan (sold separately) over a single network cable and/or a 24VAC power supply. When powered using High PoE or 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 High PoE.

### Fiber Optic Kit

Bosch offers the optional VG4-SFPSCKT, a unique media converter module for use with various Bosch devices. This media converter module is designed to accept a wide-range of 10/100 Mbps SFP modules for use with Multimode or Single-mode optical fiber with LC or SC connectors.

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

### 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 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.

## 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, including latest versions of EN 50130-4, EN 55022:2006 inc. AL:2007, EN 61000-3-3, EN 61000-6-1, EN 61000-6-2, and EN 50121-4 (Railway applications) |
| Product Safety                      | Complies with UL, CE, CSA, EN, and IEC Standards 60950-1 & 22   |
| Environmental                       | In-ceiling: IP54, Plenum rated (with acrylic bubble)<br>Also: IK8 rating when using optional Polycarbonate bubble (sold separately)<br>Indoor/Outdoor Pendant: IP66, NEMA 4X                                  |
| ONVIF Conformance                   | EN 50132-5-2  |



### 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, VG4-A-PSU2, VG4-A-PA0, VG4-A-PA1, or VG4-A-PA2.

## Parts included

### In-Ceiling

| Quantity | Item  |
|----------|---|
| 1        | AUTODOME IP starlight 7000 HD <b>In-Ceiling</b> camera with tinted acrylic bubble and white trim ring |
| 1        | Interface box   |
| 1        | Optional black trim ring  |
| 1        | Ceiling gasket (for IP54 conformance)   |
| 1        | Product DVD (which includes complete Operation Manual)  |
| 1        | Packet of printed Safety literature   |

### Outdoor Pendant

| Quantity | Item  |
|----------|---|
| 1        | AUTODOME IP starlight 7000 HD <b>Pendant</b> camera with clear acrylic bubble and sunshield |
| 1        | Packet of printed Safety literature   |
| 1        | Product DVD (which includes complete Operation Manual)                                      |
| 1        | Packet of printed Safety literature   |

### Notes:

–The pendant can be converted to an indoor pendant by removing the sunshield.

–Mounting hardware and accessories are available separately.

### Technical specifications

#### AUTODOME IP starlight 7000 HD camera

|                                     |                                       |
|-------------------------------------|---------------------------------------|
| Imager                              | 1/3-type Exmor CMOS sensor            |
| Effective Picture Elements (Pixels) | 1305 x 1049 (1.37 MP)                 |
| Lens                                | 30x Zoom<br>4.3 mm to 129 mm          |
| Field of View (FOV)                 | 2.1° to 59°                           |
| Focus                               | <i>Automatic with manual override</i> |
| Iris                                | <i>Automatic with manual override</i> |
| Digital Zoom                        | 12x                                   |

| Sensitivity / Minimum Illumination (typical)  | 30 IRE      | 50 IRE      |
|---|-------------|-------------|
| <b>Day Mode (Color)</b>                       |             |             |
| Fixed shutter 1/30, High Sensitivity mode On  | 0.052 lux   | 0.166 lux   |
| Fixed shutter 1/30, High Sensitivity mode Off | 0.26 lux    | 0.66 lux    |
| SensUp On (max. ¼), High Sensitivity mode On  | 0.0082 lux  | 0.033 lux   |
| <b>Night Mode (Black and white)</b>           |             |             |
| Fixed shutter 1/30, High Sensitivity mode On  | 0.0103 lux  | 0.041 lux   |
| Fixed shutter 1/4, High Sensitivity mode On   | 0.00129 lux | ---         |
| SensUp On (max. ¼), High Sensitivity mode On  | 0.00065 lux | 0.00205 lux |

**Note:** In Black and White (Night) mode / low light situations, High Sensitivity turns on automatically.

#### Additional Camera Settings [Both dynamic and starlight models]

|                                |  |
|--------------------------------|--|
| Gain Control                   | Auto/Manual/Max  |
| Aperture Correction            | Horizontal and vertical  |
| Electronic Shutter Speed (AES) | 1/1 sec to 1/10000 sec (22 steps)  |
| Dynamic Range                  | 90 dB typical  |
| Signal-to-Noise Ratio (SNR)    | >50 dB   |
| Backlight Compensation (BC)    | On/Off   |
| White Balance                  | 2000 K to 10,000 K<br>ATW, AWB Hold, Extended ATW, Manual, Sodium Lamp Auto, Sodium Lamp |

|                        |  |
|------------------------|--|
| Day/Night              | Monochrome, Color, Auto  |
| Anti-fog image feature | Improves visibility when viewing foggy or other low-contrast scenes. |

### Mechanical

|                               | In-Ceiling                                    | Pendant                     |
|-------------------------------|---|-----------------------------|
| Pan Range                     | 360° cont.                                    | 360° cont.                  |
| Tilt Angle                    | 1° above horizon                              | 18° above horizon           |
| Pre-position Speed            | Pan: 400°/s<br>Tilt: 300°/s                   | Pan: 400°/s<br>Tilt: 300°/s |
| Pan/Tilt Modes                |   |                             |
| • Turbo Mode (Manual Control) | Pan: 0.1°/s – 400°/s<br>Tilt: 0.1°/s – 300°/s |                             |
| • Normal Mode                 | 0.1°/s-120°/s                                 | 0.1°/s-120°/s               |
| Preset Accuracy               | ± 0.1° typ.                                   | ± 0.1° typ.                 |

### Electrical

|                            | In-Ceiling   | Pendant  |
|----------------------------|--|--|
| Input Voltage              | 21-30 VAC, 50/60 Hz; (class II)<br>High PoE (with Bosch Midspan (NPD-6001A); required to power the heater)<br>PoE+ (IEEE 802.3at, class 4 standard) (when used indoors, not powering the heater) |  |
| Power Consumption, typical | 24 W / 44 VA   | 60 W / 69 VA (heaters on)<br>or<br>24 W / 44 VA (heaters off / without heater connected in power supply box for indoor applications) |

### Surge Suppression

|   |   |
|---|---|
| Protection on Alarm Inputs                    | Peak current 17 A, peak power 300 W (8/20 µs)       |
| Protection on Alarm Outputs                   | Peak current 2 A, peak power 300 W (8/20 µs)        |
| Protection on Relay Output                    | Peak current 7.3 A, peak power 600 W (10/1000 µs)   |
| Protection on Power Input (Dome)              | Peak current 7.3 A, peak power 600 W (10/1000 µs)   |
| Protection on Power Output (Arm Power Supply) | Peak current 21.4 A, peak power 1500 W (10/1000 µs) |
| 10/100 Ethernet Data Lines                    | Peak current 14 A, peak power 200 W (8/20 µs)       |



## Software Control

|                       |   |
|-----------------------|---|
| Camera Setup/ Control | Via web browser (such as Internet Explorer version 7.0 or later), Bosch Configuration Manager, Bosch Video Management System (BVMS), Bosch Recording Station (BRS), or Bosch Video Client (BVC) |
| Software Update       | Network firmware upload   |

## Network

|                               |   |
|-------------------------------|---|
| Communications Protocols      | Standard Bosch IP protocol, including ONVIF and SNMP v1   |
| Standards / Video compression | H.264 (ISO/IEC 14496-10), M-JPEG, JPEG  |
| Streaming                     | Four (4) streams with individually configurable frame rate and resolution: <ul style="list-style-type: none"> <li>Two (2) independently configurable H.264 recording streams</li> <li>Two (2) non-recording streams (profiles)</li> </ul> |
| Stream 1 (recording)          | Options are: <ul style="list-style-type: none"> <li>H.264 MP 720p50/60 fixed;</li> <li>H.264 MP SD</li> </ul>   |

**Note:** The options available for Stream 1 depend on the value in the **Max. frame rate** field in the Installer Menu in camera configuration.

|                      |  |
|----------------------|--|
| Stream 2 (recording) | Options vary depending on Stream 1 selection.<br>Options with "H.264 MP 720p50/60 fixed" selected for Stream 1: <ul style="list-style-type: none"> <li>Copy Stream 1</li> <li>H.264 MP SD;</li> <li>H.264 MP 720p6/7 fixed;</li> <li>H.264 MP upright (cropped);</li> <li>H.264 MP D1 4:3 (cropped);</li> </ul> Option with "H.264 MP SD" selected for Stream 1: H.264 MP SD |
|----------------------|--|

|                        |  |
|------------------------|--|
| Non-recording profiles | Two (2) streams, I-frame only<br>Options are: <ul style="list-style-type: none"> <li>HD Image Optimized;</li> <li>HD Balanced;</li> <li>HD Bit Rate Optimized;</li> <li>SD Image Optimized;</li> <li>SD Balanced;</li> <li>SD Bit Rate Optimized;</li> <li>DSL Optimized;</li> <li>3G Optimized</li> </ul> |
|------------------------|--|

## Resolution (H x V)

|         |            |
|---------|------------|
| 720p HD | 1280 x 720 |
| 432p SD | 768 x 432  |
| 288p SD | 512 x 288  |
| 144p SD | 256 x 144  |

|           |  |
|-----------|--|
| Protocols | IPv4, IPv6, UDP, TCP, HTTP, HTTPS, RTP/RTCP, IGMP V2/V3, ICMP, ICMPv6, RTSP, FTP, Telnet, ARP, DHCP, SNTP, SNMP (v1, MIB-II), 802.1x, DNS, DNSv6, DDNS (DynDNS.org, selftHOST.de, no-ip.com), SMTP, iSCSI, UPnP (SSDP), DiffServ (QoS), LLDP, SOAP, Dropbox, CHAP, digest authentication |
|-----------|--|

|                    |   |
|--------------------|---|
| Ethernet           | 10BASE-T/100BASE-TX, auto-sensing, half/full duplex |
| Encryption         | TLS 1.0, SSL, DES, 3DES, AES                        |
| Ethernet connector | RJ45  |
| Connectivity       | ONVIF Profile S, Auto-MDIX                          |
| GOP Structure      | IP, IBP, IBBP                                       |
| Data Rate          | 9.6 kbps to 6 Mbps                                  |
| Overall IP Delay   | 240 ms  |

|                         |  |
|-------------------------|--|
| Audio                   |  |
| • Standard              | G.711, 8 kHz sampling rate<br>L16, 16 kHz sampling rate<br>AAC, 16 kHz sampling rate |
| • Signal-to-Noise Ratio | >50 dB   |
| • Audio Streaming       | Bidirectional (full-duplex)  |

## Local Storage

|                  |  |
|------------------|--|
| Memory Card Slot | User-supplied SD/SDHC/SDXC memory card (maximum 2TB – SDXC)              |
| Recording        | Continuous recording of video and audio, alarm/events/schedule recording |

## Fiber Optic Kit

### VG4-SFPSCKT

|                     |  |
|---------------------|--|
| Description         | Fiber Optic Ethernet Media Converter kit <sup>6</sup> . Requires a small form-factor pluggable (SFP) module (sold separately).   |
| Data Interface      | Ethernet   |
| Data Rate           | 10/100 Mbps<br>IEEE 802.3 Compliant<br>Full Duplex or Half Duplex Electrical Port<br>Full Duplex Optical Port                    |
| Compatible Receiver | CNFE2MC  |
| Installation        | Installed inside a VG4-A-PA0, VG4-A-PA1, VG4-A-PA2, VG4-A-PSU1, or a VG4-A-PSU2 power supply box with supplied mounting hardware |

<sup>6</sup>. Kit available separately and must be installed inside the AUTODOME power supply box.

**SFP Modules**

|                          |  |  |  |
|--------------------------|--|--|--|
| Description              | Interchangeable modules available for use with MMF or SMF optical fiber. |  |  |
| Data Interface           | Ethernet   |  |  |
| Data Rate                | 10/100 Mbps<br>IEEE 802.3 Compliant                                      |  |  |
| <b>Mechanical</b>        |  |  |  |
| 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-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-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 µm MMF. For 50/125 µm 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 µm 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. |

**Miscellaneous**

|                     |  |
|---------------------|--|
| Sectors/Titling     | 16 independent sectors with a 20-character title/sector  |
| Masking             | 24 individually configurable privacy masks   |
| Pre-positions       | 256, each with a 20-character title  |
| Guard Tours         | Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2)</li> <li>Preset tour – one (1), consisting of up to 256 scenes, consecutively</li> </ul> |
| Supported Languages | English, Chinese, Dutch, French, German, Italian, Japanese, Polish, Portuguese, and Spanish  |

**User Connections**

|                   |   |
|-------------------|---|
| Power, Camera     | RJ-45 10/100 Base-TX Ethernet (High Power-over-Ethernet (High PoE)) or PoE+ (IEEE 802.3at, class 4 standard)<br>21-30 VAC, 50/60 Hz |
| Power, Heater     | RJ-45 10/100 Base-TX Ethernet (High Power-over-Ethernet (High PoE))<br>21-30 VAC, 50/60 Hz  |
| Video and Control | RJ-45 10/100 Base-TX Ethernet   |
| Alarm Inputs (7)  | 2 supervised; 5 non-supervised<br>Programmable for “normally open” or “normally closed”   |
| Alarm Outputs (4) | 1 dry contact relay; 3 open collector/transistor outputs<br>32 VDC @ 150 ma max.  |
| Audio             | 1 x mono line in, 1 x mono line out   |
| • Signal line in  | 12 kOhm typical, 1 Vrms max   |
| • Signal line out | 1 Vrms at 1.5 kOhm, typical   |

**Environmental**

|                                    | In-Ceiling (with acrylic bubble)  | Pendant (with acrylic bubble)  |
|------------------------------------|---|--|
| Ingress Protection Rating/Standard | IP54, Plenum rated  | IP66, NEMA 4X <sup>7</sup>   |
|                                    | NEMA 4X for: <ul style="list-style-type: none"> <li>Access to Hazardous parts</li> <li>Ingress of solid foreign objects (falling dirt, circulating dust, settling dust)</li> <li>Ingress of water (dripping and light splashing, hosedown and splashing)</li> <li>Corrosive agents</li> </ul> |  |
| Operating Temp.                    | -10 °C to 40 °C (14 °F to 104 °F)   | -40 °C to 55 °C (-40 °F to 131 °F)<br>or<br>-10 °C to 55 °C (14 °F to 131 °F) <sup>8</sup> |
| Storage Temp.                      | -40 °C to 60 °C (-40 °F to 140 °F)  | -40 °C to 60 °C (-40 °F to 140 °F)   |
| Humidity                           | 0% to 90% relative, non-condensing  | 0% to 100% relative, condensing  |

7. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

8. Without heater connected in power supply box for indoor applications.

**Construction**

|                          |                              |
|--------------------------|------------------------------|
| Dimensions               | See dimensional drawings     |
| Weight                   |                              |
| • In-ceiling             | 2.58 kg (5.69 lb)            |
| • Indoor/Outdoor Pendant | 3.06 kg (6.75 lb)            |
| Bubble Size              | 153.1 mm diameter (6.03 in.) |
| Construction Material    |                              |

|                 |  |
|-----------------|--|
| • Housing       | In-ceiling: Magnesium<br>Pendant: Cast aluminum                            |
| • Bubble        | In-ceiling: HD High-resolution acrylic<br>Pendant: High-resolution acrylic |
| Standard Color  | White (RAL 9003)   |
| Standard Finish | Powder coated, sand finish   |

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

|   |                |
|---|----------------|
| Clear HD high-resolution acrylic  | VGA-BUBHD-CCLA |
| Tinted HD high-resolution acrylic<br><i>(Included with in-ceiling camera models.)</i> | VGA-BUBHD-CTIA |

**Pendant**

|  |                 |
|--|-----------------|
| Clear high-resolution acrylic<br><i>(Included with pendant camera models.)</i> | VGA-BUBBLE-PCLA |
| Tinted high-resolution acrylic   | VGA-BUBBLE-PTIA |

Polycarbonate bubbles are not recommended for use with HD products because of optical degradation.

**Pendant Arm Mounts**

|  |                       |
|--|-----------------------|
| Wall Arm (No Transformer)                | VG4-A-PA0             |
| Wall Arm (120/230 VAC Transformer)       | VG4-A-PA1 / VG4-A-PA2 |
| Pendant Arm with Wiring                  | VGA-PEND-ARM          |
| Mounting plate for VGA-PEND-ARM          | VGA-PEND-WPLATE       |
| Trim skirt for VG4 Series Power Supplies | VG4-A-TSKIRT          |

**Optional Mounting Plates for Arm Mounts**

|                            |            |
|----------------------------|------------|
| Corner Mounting Plate      | VG4-A-9542 |
| Mast (Pole) Mounting Plate | VG4-A-9541 |

**Pendant Pipe Mounts**

|                |            |
|----------------|------------|
| Pipe Mount Cap | VG4-A-9543 |
|----------------|------------|

**Pendant Roof Mounts**

|  |                |
|--|----------------|
| Roof (Parapet) Mount<br><i>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</i> | VGA-ROOF-MOUNT |
|--|----------------|

**Optional Mounting Plates for Roof Mounts**

|                                     |             |
|-------------------------------------|-------------|
| Flat Roof Adapter for Parapet Mount | LTC 9230/01 |
|-------------------------------------|-------------|

**In-ceiling Support Kits**

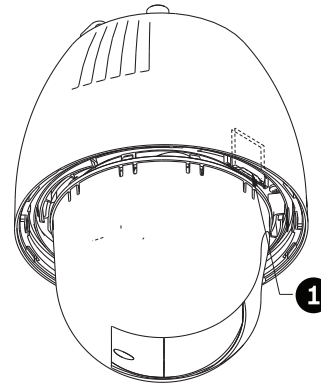
|  |           |
|--|-----------|
| Bracket for suspended or drop ceilings | VGA-IC-SP |
|--|-----------|

**Power Supplies**

|  |            |
|--|------------|
| High PoE Midspan 60W, single port, AC in | NPD-6001A  |
| Outdoor Power Supply Box, no transformer | VG4-A-PSU0 |

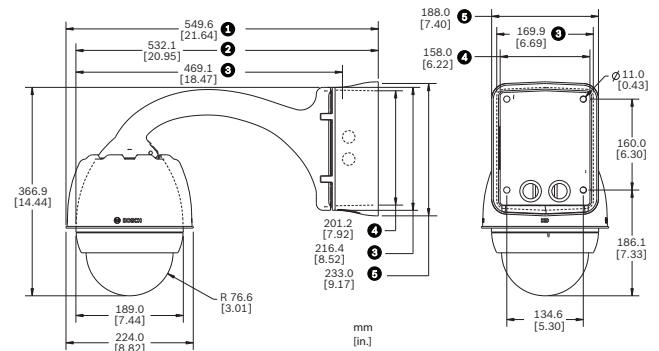
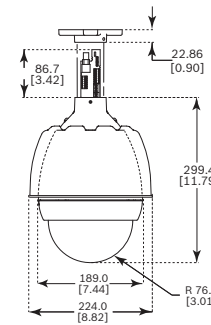
|  |                         |
|--|-------------------------|
| Outdoor Power Supply Box (120/230 VAC Transformer) | VG4-A-PSU1 / VG4-A-PSU2 |
| Fiber Optic Kit                                    | VG4-SFPSCKT             |

**Dimensional Drawings**



AUTODOME 7000 – Slot for SD card

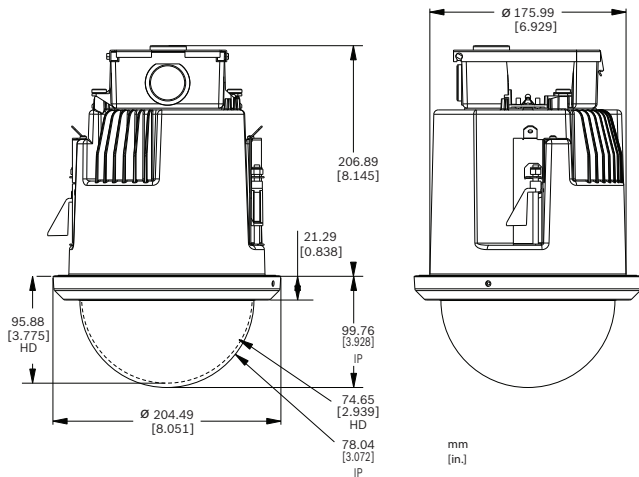
1 Slot for SD card



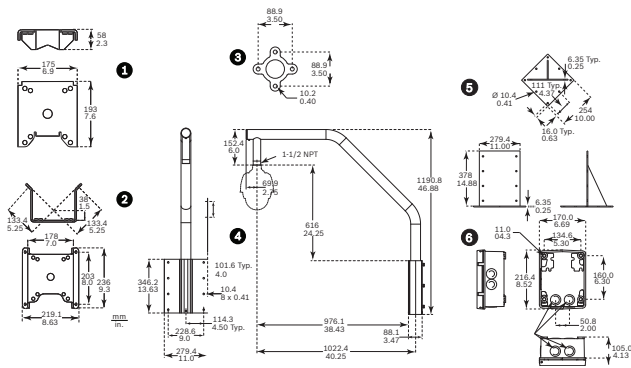
AUTODOME 7000 Dimensions – Pendant, Pipe

- |                                  |                    |
|----------------------------------|--------------------|
| 1 Power supply box and sunshield | 4 Power supply box |
| 2 Sunshield removed              | 5 Trim skirt       |
| 3 Mounting plate                 |                    |





AUTODOME 7000 Dimensions – In-ceiling



AUTODOME Dimensions - Mounts

- |                |   |
|----------------|---|
| 1 Mast Mount   | 4 Roof Mount                            |
| 2 Corner Mount | 5 Roof Mount Adapter                    |
| 3 Pipe Mount   | 6 Power Supply for Pipe and Roof Mounts |

**Ordering information**

**VG5-7130-EPC4 AUTODOME starlight 7000 HD camera, 720p60, 30x zoom, pendant, with clear bubble**  
 Superb quality indoor/outdoor IP PTZ dome camera. 720p HD resolution; 30x optical zoom; IVA; PoE; iSCSI/SD; multiple pre-programmed user modes; H.264 quad-streaming (CPP4); IP66; pendant mount, clear bubble.  
 Order number **VG5-7130-EPC4**

**VG5-7130-CPT4 AUTODOME starlight 7000 HD camera, 720p60, 30x zoom, in-ceiling, tinted bubble**  
 Superb quality indoor IP PTZ dome camera. 720p HD resolution; 30x optical zoom; IVA; PoE; iSCSI/SD; multiple pre-programmed user modes; H.264 quad-streaming (CPP4); IP66; in-ceiling mount, tinted bubble.  
 Order number **VG5-7130-CPT4**

**Accessories**

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

**VG4-A-PSU0 24 VAC Power Supply Unit**  
 Power supply, 24 VAC input, for a PTZ camera in the AUTODOME Series. White, aluminum enclosure with cover, rated IP66 and IK 08. 100 W output. Optional trim skirt (sold separately).  
 Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**  
 Power supply with transformer, 120 VAC input, for an AUTODOME or MIC7000 Series PTZ camera. White, aluminum enclosure with cover, rated IP66 and IK 08. 100 W output. Optional trim skirt (sold separately).  
 Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**  
 Power supply with transformer, 230 VAC input, for an AUTODOME or MIC7000 Series PTZ camera. White, aluminum enclosure with cover, rated IP66 and IK 08. 100 W output. Optional trim skirt (sold separately).  
 Order number **VG4-A-PSU2**

**VG4-A-PA0 Pendant Arm Mount**  
 Pendant arm mount with power supply box for an AUTODOME Series camera, no transformer, white  
 Order number **VG4-A-PA0**

**VG4-A-PA1 Pendant Arm Mount with 120 VAC Transformer**  
 Pendant arm mount with power supply box for an AUTODOME Series camera with a 120 VAC transformer, white  
 Order number **VG4-A-PA1**

**VG4-A-PA2 Pendant Arm Mount with 230 VAC Transformer**  
 Pendant arm mount with power supply box for an AUTODOME Series camera with a 230 VAC transformer, white  
 Order number **VG4-A-PA2**

**VGA-PEND-ARM Pendant Arm with Wiring**  
 Compatible with an AutoDome Series pendant housing  
 Order number **VGA-PEND-ARM**

**VGA-PEND-WPLATE Mounting Plate**  
 Mounting plate for VGA-PEND-ARM, compatible with an AutoDome Series camera  
 Order number **VGA-PEND-WPLATE**

**VGA-ROOF-MOUNT Roof Mount**  
 Roof parapet mount, white (VG4-A-9543 Pipe Mount Cap required. Available 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**

**VG4-A-9541 Pole Mount Adapter**

Pole mount adapter for an AUTODOME pendant arm or a DINION imager, designed for poles with a diameter of 100-380 mm (4-15 in.), white  
Order number **VG4-A-9541**

**VG4-A-9542 Corner Mount Adapter**

Corner mount adapter for an AUTODOME pendant arm or a DINION imager  
Order number **VG4-A-9542**

**VG4-A-9543 Pipe Mount**

Pipe mount, white, for an AutoDome Series pendant housing  
Order number **VG4-A-9543**

**VGA-IC-SP In-ceiling Support Kit for Various Bosch Dome Cameras**

Suspended ceiling support kit for AUTODOME 100/600/7000 Series cameras  
Order number **VGA-IC-SP**

**VGA-SBOX-COVER Cover for AutoDome Power Supply Boxes**

Order number **VGA-SBOX-COVER**

**VG4-A-TSKIRT Trim Skirt for AutoDome Power Supply Boxes**

Trim skirt for the following AutoDome Series power supply boxes:  
VG4-A-PSU0, VG4-A-PSU1, and VG4-A-PSU2  
Order number **VG4-A-TSKIRT**

**VGA-BUBBLE-PCLA Clear High-resolution Bubble for a Pendant Housing**

Low-impact acrylic bubble  
Order number **VGA-BUBBLE-PCLA**

**VGA-BUBBLE-PTIA Tinted High-resolution Bubble for a Pendant Housing**

Low-impact acrylic bubble  
Order number **VGA-BUBBLE-PTIA**

**VGA-BUBHD-CCLA Clear HD High-Resolution Acrylic Bubble for In-Ceiling AUTODOME cameras**

Order number **VGA-BUBHD-CCLA**

**VGA-BUBHD-CTIA Tinted HD High-Resolution Acrylic Bubble for In-Ceiling AUTODOME cameras**

Order number **VGA-BUBHD-CTIA**

**VG4-SFPSCKT Fiber Optic Ethernet Media Converter Kit**

Ethernet media converter video transmitter/data receiver fiber optic kit  
Order number **VG4-SFPSCKT**

**SFP-2 Small Form-factor Pluggable Optical Interface**

SFP Fiber Optic Module, Multi-mode, 1310 nm, 2 km (1.2 miles), 2 LC connectors  
Order number **SFP-2**

**SFP-3 Small Form-factor Pluggable Optical Interface**

SFP Fiber Optic Module, Single-mode, 1310 nm, 20 km (12.4 miles), 2 LC connectors  
Order number **SFP-3**

**SFP-25 Small Form-factor Pluggable Optical Interface**

SFP Fiber Optic Module, Multi-mode, 1310/1550 nm, 2 km (1.2 miles), 1 SC connector  
Order number **SFP-25**

**SFP-26 Small Form-factor Pluggable Optical Interface**

SFP Fiber Optic Module, Multi-mode, 1550/1310 nm, 2 km (1.2 miles), 1 SC connector  
Order number **SFP-26**

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