


**BOSCH**

Invented for life

# UML-1x1 Series 15-, 17-, 19-inch General Purpose LCD Flat Panel Monitors



- ▶ Supports high-resolution 500 TVL, up to 1280 x 1024 resolution—1.3 Megapixels (UML-191-90 and UML-171-90) or 1024 x 768 resolution (UML-151-90)
- ▶ Maximum brightness of 250 to 300 cd/m<sup>2</sup>
- ▶ Maximum contrast ratio of 600:1 to 1000:1 for excellent color accuracy and consistency
- ▶ Minimum response time of five to eight ms reduces smearing and ghosting
- ▶ 100/240 VAC, 50/60 Hz auto-ranging internal power supply
- ▶ Low power consumption (less than 45 W)
- ▶ Looping composite and Y/C (S-video) inputs
- ▶ VGA input for DVR or PC applications
- ▶ 3D comb filter and de-interlace circuitry for high-quality video
- ▶ Front panel control lockout

Bosch LCD flat panel monitors are high-resolution color monitors ideal for use with analog video, digital video recorder (DVR), and PC applications. The monitors feature a color liquid crystal display (LCD) flat-screen panel and are available with 15-in., 17-in., and 19-in. viewable picture areas. Each monitor also features a wide range of horizontal and vertical viewing angles that provide comfortable, clear viewing – whether you place it on a desktop or mount it to a wall or in a rack.

## Functions

### Excellent image quality

Bosch LCD monitors automatically adapt to the input resolution of the incoming video signal (up to 1280 x 1024 pixels or 1.3 Megapixels). The monitors' analog VGA input easily accommodates the widespread use of PCs in today's security surveillance systems. Their high contrast ratio (600:1 to 1000:1) and high brightness rating (250 to 300 cd/m<sup>2</sup>) offer excellent color accuracy and imaging for easier viewing and interpretation of images. The panel refreshes every five to eight milliseconds, so you get crisp, clear images with less smearing - and less image “ghosting” in fast-motion video.

### Key benefits of LCD monitors

Long-life fluorescent backlights help avoid luminance degradation on the LCD monitor – so it easily maintains its brightness level over time. This is an advantage over aging CRT-type monitors that become progressively dimmer. The consistent brightness also provides a sharp display image, without the constant flickering that you typically see in CRT monitors. This allows you to use the LCD monitor longer without eyestrain or excessive fatigue.

### Additional advantages

The Bosch family of standard-performance LCD monitors also features:

- Low power consumption
- Automatic adaptation to fluctuating electricity loads while protecting your circuitry
- Standard 100 mm (3.9 in.) mounting holes to easily accommodate a range of VESA wall mounts
- User-friendly, on-screen menus and front panel controls for adjusting monitor display parameters to your specific preferences

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**Certifications and Approvals**

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

**Technical Specifications**

**Electrical**

	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Rated Voltage	120/230 VAC, 50/60 Hz	120/230 VAC, 50/60 Hz	120/230 VAC, 50/60 Hz
Voltage Range	100-240 VAC	100-240 VAC	100-240 VAC
Power at Rated Voltage	25 W operation, 5 W standby	40 W operation, 5 W standby	45 W operation, 5 W standby
Sync Format	PAL/NTSC	PAL/NTSC	PAL/NTSC
LCD Panel	TFT LCD	TFT LCD	TFT LCD
Screen Size (H x V)	304.1 x 228.1 mm (12.0 x 9.0 in.)	338.0 x 270.0 mm (13.3 x 10.6 in.)	376.0 x 301.0 mm (14.8 x 11.9 in.)
Viewable Picture Area	15 in. (381 mm) measured diagonally	17 in. (432 mm) measured diagonally	19 in. (483 mm) measured diagonally
Pixel Pitch: (H x V)	0.297 x 0.297 mm (0.01 x 0.01 in.)	0.264 x 0.264 mm (0.01 x 0.01 in.)	0.294 x 0.294 mm (0.01 x 0.01 in.)
Resolution	1024 x 768 pixels, 500 TV lines typical	1280 x 1024 pixels, 500 TV lines typical	1280 x 1024 pixels, 500 TV lines typical
Aspect Ratio	4:3	5:4	5:4
Display Colors	16.7 million colors	16.7 million colors	8-bit interface; 16.7 million colors
Response Time	< 8 ms	< 5 ms	< 5 ms
Backlight	Two (2) cold cathode fluorescent tubes, rated life 50,000 hours	Two (2) cold cathode fluorescent tubes, rated life 50,000 hours	Four (4) cold cathode fluorescent tubes, rated life 50,000 hours
<b>LCD Panel Optical Characteristics</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Luminance	250 cd/m <sup>2</sup> , anti-glare, hard-coating treatment	300 cd/m <sup>2</sup> , anti-glare, hard-coating treatment	300 cd/m <sup>2</sup> , anti-glare, hard-coating treatment
Contrast Ratio	600:1	1000:1	800:1
Viewing Angle	160°/160°	160°/160°	160°/160°

<b>Video Input</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Composite Video (CVBS)	1.0 Vp-p (0.5–1.5 Vp-p), automatic switching from 75 Ω unbalanced termination to Hi-Z with passive loop-through operation		
Y/C (S-video)	0.7 Vp-p (Y-signal), 0.3 Vp-p (C-signal), 75 Ω termination		

<b>PC Input</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Analog RGB	0.7 Vp-p (0.5–1 Vrms)		

<b>PC Timing Modes</b>			
640 x 480	60/72/75 Hz	60/72/75 Hz	60/72/75 Hz
800 x 600	60/72/75 Hz	60/72/75 Hz	60/72/75 Hz
1024 x 768	60/70/75 Hz	60/70/75 Hz	60/70/75 Hz
1280 x 1024		60/75 Hz	60/75 Hz

**Controls**

<b>Video Input</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Front Panel	Push-buttons		
Input	Selects: Video1, Video2, S-video, VGA		
Menu	Selects on-screen display (OSD), up cursor, down cursor/auto adjust, left cursor, right cursor		
Power	On/Off		
Front Panel Lock-out	Multiple push-button combination		

<b>On-screen Display</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Video Mode	Input Source, Screen, OSD, Utility		
PC Mode	Input Screen, OSD, Color, Utility		

<b>Indicators</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
LED	Power On (green) Standby (blinking red) Unsupported Mode (green) Power Off (red)		
On-screen	VGA: Check input signal Video: Flashes "AV1" or "AV2" when there is a black screen		

<b>Connectors</b>	<b>UML-151-90</b>	<b>UML-171-90</b>	<b>UML-191-90</b>
Video 1 (AV1)	Composite video: two (2) BNC (1 in, 1 out)		
Video 2 (AV2)	Composite video: two (2) BNC (1 in, 1 out)		
Y/C (S-video)	Two (2) mini-DIN, 4-pin (1 in, 1 out)		
RGB	One (1) VGA cable included		
Power Input	5.5 mm DC input jack		
Power Adapter (included)	Input: 100–240 VAC, 50/60 Hz Output: 12 VDC, 3.3 A	Input: 100–240 VAC, 50/60 Hz Output: 12 VDC, 4.1 A	

**Mechanical**

	UML-151-90	UML-171-90	UML-191-90
Cabinet Material	ABS plastic		
Finish	Black		
Mount	Wall mounting compatible with standard bracket, 100 mm (3.9 in.) centers, M4 thread		

**Dimensions (W x H x D)**

Monitor with Base	352 x 355 x 200 mm (13.86 x 14.0 x 7.9 in.)	382.4 x 390.5 x 200 mm (15.1 x 15.4 x 7.9 in.)	430 x 428 x 200 mm (16.9 x 16.9 x 7.9 in.)
Monitor Only	352 x 292 x 58 mm (13.9 x 11.5 x 2.2 in.)	382.4 x 330.0 x 58.7 mm (15.1 x 13.0 x 2.3 in.)	420 x 374 x 60 mm (16.9 x 14.7 x 2.4 in.)

**Weight**

Monitor with Base	3.7 kg (8.1 lb)	6.6 kg (14.6 lb)	7.6 kg (16.9 lb)
Monitor Only	2.5 kg (5.6 lb)	4.1 kg (9.05 lb)	5.9 kg (13.1 lb)

**Environmental**

	UML-151-90	UML-171-90	UML-191-90
Operating Temperature	0°C to 40°C (32°F to 104°F)		
Storage Temperature	-20°C to 60°C (-4°F to 140°F)		
Humidity	Maximum 90%, non-condensing		

**Parts Included**

One (1) Bosch General Purpose Color LCD Flat Panel Monitor  
 One (1) VGA to VGA cable  
 Two (2), 3-wire power cords with a grounded plug: one (1) with a European/Continental plug type and one (1) with a U.S. plug type

**Ordering Information**

<b>UML-151-90 15-inch Color LCD Display Monitor</b> 15-inch (381 mm) color LCD monitor, 3D image, 500 TVL, 1024 X 768 resolution, VGA, CVBS, AUDIO, 120/230 VAC, 50/60 HZ	<b>UML-151-90</b>
<b>UML-171-90 17-inch Color LCD Display Monitor</b> 17-inch (432 mm) color LCD monitor, 3D image, 500 TVL, 1280 x 1024 resolution, VGA, CVBS, audio, 120/230 VAC, 50/60 HZ	<b>UML-171-90</b>
<b>UML-191-90 19-inch Color LCD Display Monitor</b> 19-inch (483 mm) color LCD monitor, 3D image, 500 TVL, 1280 x 1024 resolution, VGA, CVBS, audio, 120/230 VAC, 50/60 HZ	<b>UML-191-90</b>
<b>Accessories</b>	
<b>UMM-LW-20B Fixed Wall Mount</b> Fixed wall mount for flat panel LCD monitors, black	<b>UMM-LW-20B</b>
<b>UMM-LW-30B Swivel/Tilt Wall Mount</b> Swivel/Tilt wall mount for flat panel LCD monitors, black	<b>UMM-LW-30B</b>
<b>UMM-LCDUB-RM Rack Mount Bracket for LCD Monitors</b> Supports dual 8.4-in. and single 8.4- to 19-in. LCD monitors in a standard VESA rack cabinet	<b>UMM-LCDUB-RM</b>

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**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Camera

**Attachments**

Bosch VDC-445 Dome Data Sheet.pdf



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## VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



- ▶ **Low-impact and impact-resistant models**
- ▶ **1/3-inch format CCD imager**
- ▶ **Superior picture clarity in virtually all situations**
- ▶ **540 TVL color resolution**
- ▶ **AC or DC operation**
- ▶ **Patented dome shape for 90° vertical view**
- ▶ **Extended sensitivity with NightSense**
- ▶ **Bilinx bi-directional communication**

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome<sup>XT+</sup> version can withstand the equivalent of 120 lbs of force. The FlexiDome<sup>VF</sup> utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses. Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

### Functions

#### Technology

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

#### Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

#### Controls and Indicators

- OSD
- 5-key operation

#### Interconnections

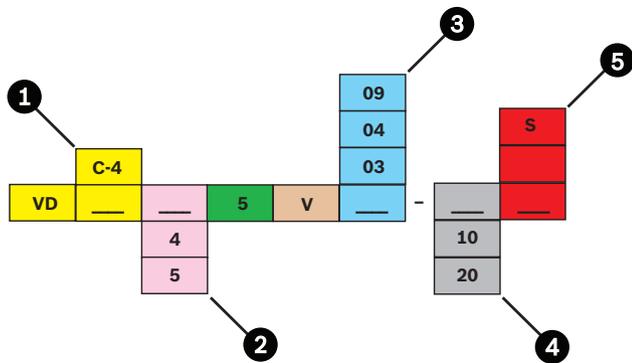
- Video connection BNC on flying lead
- Power connection on flying leads

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**Certifications and Approvals**

Region	Certification	
Europe	CE	Declaration of Conformity VDX 355-455-485-495
USA	FCC	Declaration of Conformity VDX 355-455-485-495
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)	
Immunity	EN 50130-4 (CE)	
Emission	EN 50022 class B (CE); FCC, class B part 15	
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)	

**Installation/Configuration Notes**



<b>1</b>	<b>C-4</b>	<b>Color (with NightSense)</b>
<b>2</b>	4	Low impact
	5	High impact
<b>3</b>	03	2.6 to 6 mm F1.4
	04	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)
	09	9 to 22 mm F1.4
<b>4</b>	10	PAL color
	20	NTSC color
<b>5</b>		Flush mount
	S	Surface mount

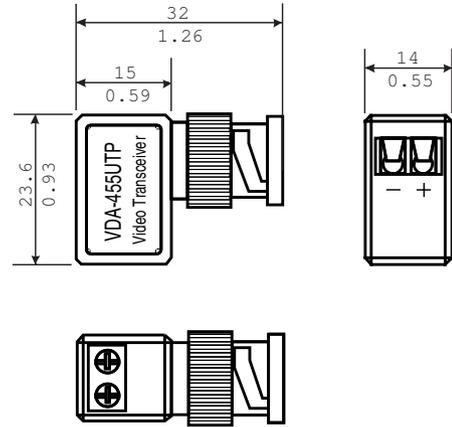
**FlexiDome<sup>VF</sup> model overview**

Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

**FlexiDome<sup>XT+</sup> model overview**

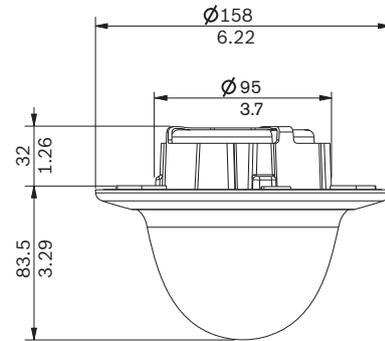
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

**BNC to UTP Transceiver**



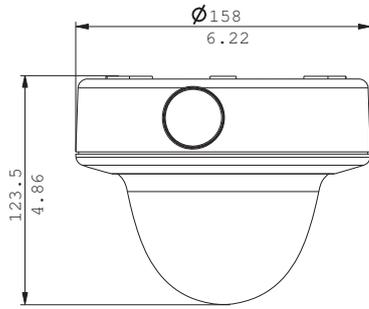
Dimensions in mm (in.)

**FlexiDome<sup>VF</sup> Low Impact, Indoor Flush Mounting Model**



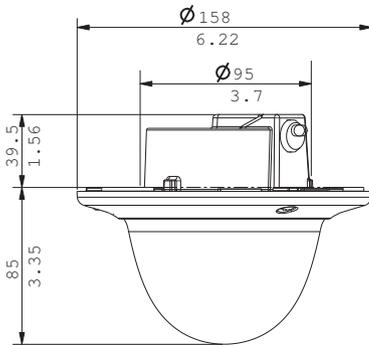
Dimensions in mm (in.)

**VDA-445SMB-Surface Mount Box**



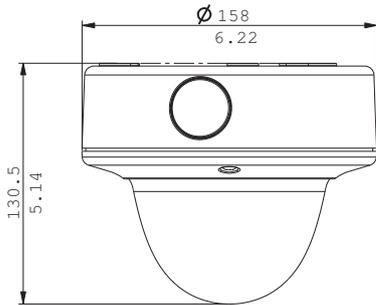
Dimensions in mm (in.) for the FlexiDome<sup>VF</sup> low-impact, indoor surface mounting model

**FlexiDome<sup>XT+</sup> Impact-resistant, Indoor Flush Mounting Model**



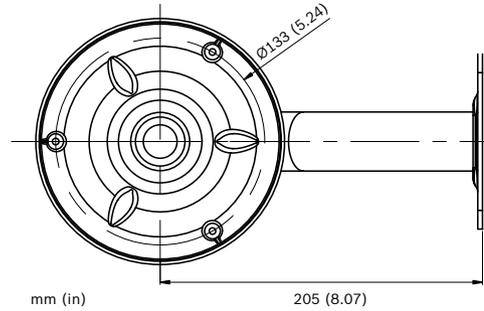
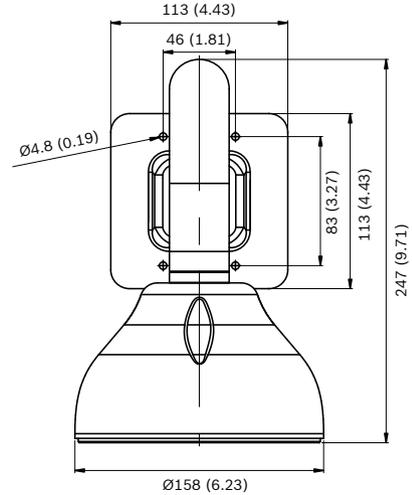
Dimensions in mm (in.)

**VDA-455SMB -Hardened Surface Mount Box**

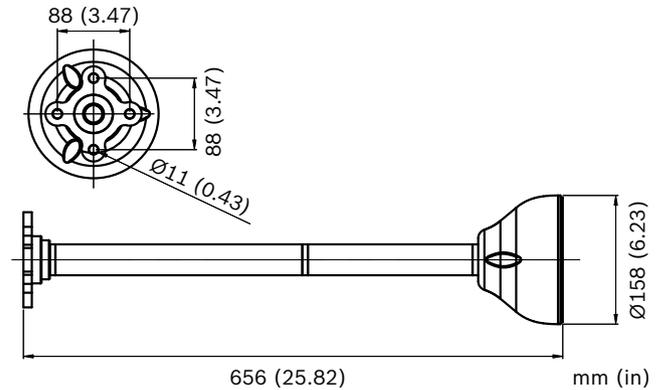


Dimensions in mm (in.) for the FlexiDome<sup>XT+</sup> impact-resistant, surface mounting model

**VDA-WMT-DOME -Pendant Wall Mount**

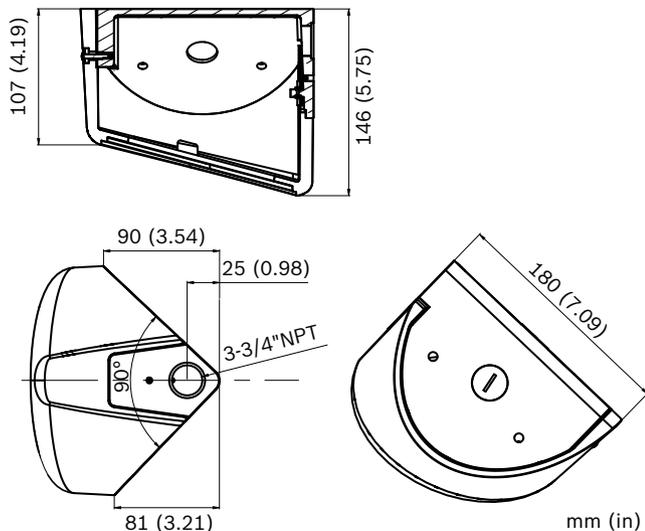


**VDA-PMT-DOME -Pipe Mount**



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**VDA-CMT-DOME –Corner Mount**



Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

\* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

**Technical Specifications**

**Electrical**

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

**Sensitivity (3200 K)**

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)
VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

**Optical**

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V) Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V) Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V) Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V) Tele: 12.8° x 9.6° (H x V)

**Mechanical**

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

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**Environmental**

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

**Ordering Information**

<b>VDC-445V03-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	<b>VDC-445V03-10</b>
<b>VDC-445V03-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-10S</b>
<b>VDC-445V03-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-445V03-20</b>
<b>VDC-445V03-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-20S</b>
<b>VDC-445V04-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-10</b>
<b>VDC-445V04-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-10S</b>
<b>VDC-445V04-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-20</b>
<b>VDC-445V04-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-20S</b>
<b>VDC-455V03-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-10</b>

**Ordering Information**

<b>VDC-455V03-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-10S</b>
<b>VDC-455V03-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-20</b>
<b>VDC-455V03-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-20S</b>
<b>VDC-455V04-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-10</b>
<b>VDC-455V04-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-10S</b>
<b>VDC-455V04-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-20</b>
<b>VDC-455V04-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-20S</b>
<b>VDC-445V09-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-10</b>
<b>VDC-445V09-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-20</b>
<b>VDC-445V09-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-10S</b>
<b>VDC-445V09-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-20S</b>

6 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

**Ordering Information**

**VDC-455V09-10 Vandal Resistant Color Model**      **VDC-455V09-10**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-20 Vandal Resistant Color Model**      **VDC-455V09-20**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-10S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-10S**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**VDC-455V09-20S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-20S**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**Accessories**

**VDA-445DMY-S**      **VDA-445DMY-S**  
Flexidome surface mounted indoor dummy camera

**VDA-445SMB**      **VDA-445SMB**  
Surface mount box, indoor for VDM-345 and VDC-445

**VDA-455SMB**      **VDA-455SMB**  
Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).

**VDA-455UTP**      **VDA-455UTP**  
Adaptor for UTP twisted pair output

**S1460 Service/Monitor Cable**      **S1460**  
for FlexiDome analog and IP (2.5 mm connector to BNC), 1 m

**UPA-1509-60 Power Supply**      **UPA-1509-60**  
120 VAC, 60 Hz, 15 VDC, 9 VA Out

**UPA-1509-50 Power Supply**      **UPA-1509-50**  
220 VAC, 50 Hz, 15 VDC, 9 VA Out

**UPA-2420-50 Power Supply**      **UPA-2420-50**  
220 VAC, 50 Hz, 24 VAC, 20 VA Out

**UPA-2450-50 Power Supply**      **UPA-2450-50**  
220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.

**VDA-455TBL Tinted bubble**      **VDA-455TBL**  
Tinted bubble for FlexiDome series

**VDA-455CBL Clear bubble**      **VDA-455CBL**  
Clear Bubble for FlexiDome series

**Ordering Information**

**VDA-WMT-DOME Wall Pendant Mount Bracket**      **VDA-WMT-DOME**  
Wall pendant mount bracket for FlexiDome cameras

**VDA-CMT-DOME Corner Mount Bracket**      **VDA-CMT-DOME**  
Corner mount bracket for FlexiDome cameras

**VDA-PMT-DOME Pendant Pipe Mount Bracket**      **VDA-PMT-DOME**  
Pendant pipe mount bracket for FlexiDome cameras

**Software Options**

**VP-CFGSFT Configuration Software**      **VP-CFGSFT**  
for cameras using Bilinx, includes VP-USB Adaptor

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**Represented by**

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parts and Products:Camera

**Attachments**

Bosch VDC-445 Dome Data Sheet.pdf



**BOSCH**  
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## VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



- ▶ **Low-impact and impact-resistant models**
- ▶ **1/3-inch format CCD imager**
- ▶ **Superior picture clarity in virtually all situations**
- ▶ **540 TVL color resolution**
- ▶ **AC or DC operation**
- ▶ **Patented dome shape for 90° vertical view**
- ▶ **Extended sensitivity with NightSense**
- ▶ **Bilinx bi-directional communication**

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome<sup>XT+</sup> version can withstand the equivalent of 120 lbs of force. The FlexiDome<sup>VF</sup> utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses. Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

### Functions

#### Technology

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

#### Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

#### Controls and Indicators

- OSD
- 5-key operation

#### Interconnections

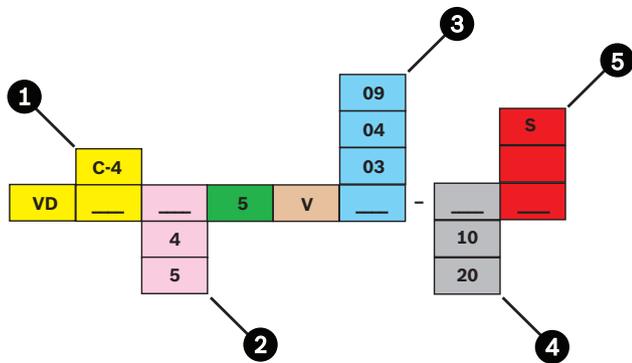
- Video connection BNC on flying lead
- Power connection on flying leads

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**Certifications and Approvals**

Region	Certification	
Europe	CE	Declaration of Conformity VDX 355-455-485-495
USA	FCC	Declaration of Conformity VDX 355-455-485-495
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)	
Immunity	EN 50130-4 (CE)	
Emission	EN 50022 class B (CE); FCC, class B part 15	
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)	

**Installation/Configuration Notes**



<b>1</b>	<b>C-4</b>	<b>Color (with NightSense)</b>
<b>2</b>	4	Low impact
	5	High impact
<b>3</b>	03	2.6 to 6 mm F1.4
	04	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)
	09	9 to 22 mm F1.4
<b>4</b>	10	PAL color
	20	NTSC color
<b>5</b>		Flush mount
	S	Surface mount

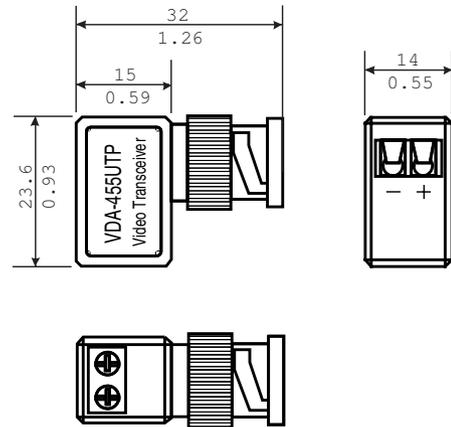
**FlexiDome<sup>VF</sup> model overview**

Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

**FlexiDome<sup>XT+</sup> model overview**

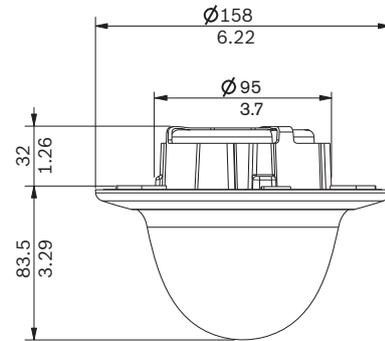
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

**BNC to UTP Transceiver**



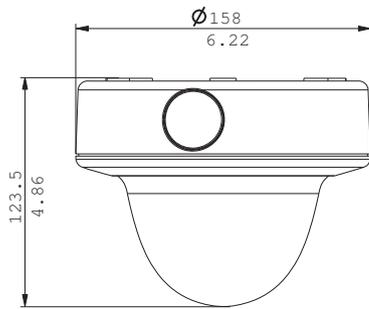
Dimensions in mm (in.)

**FlexiDome<sup>VF</sup> Low Impact, Indoor Flush Mounting Model**



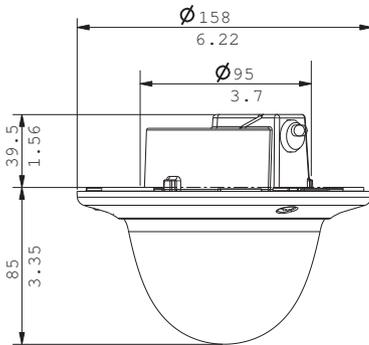
Dimensions in mm (in.)

**VDA-445SMB-Surface Mount Box**



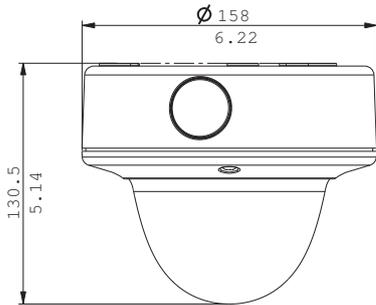
Dimensions in mm (in.) for the FlexiDome<sup>VF</sup> low-impact, indoor surface mounting model

**FlexiDome<sup>XT+</sup> Impact-resistant, Indoor Flush Mounting Model**



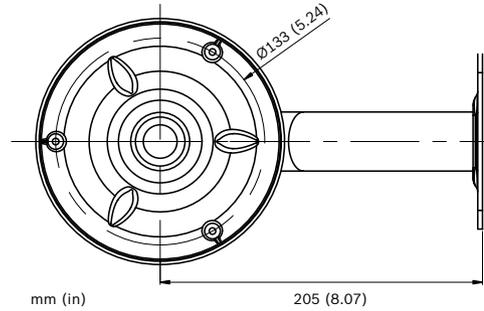
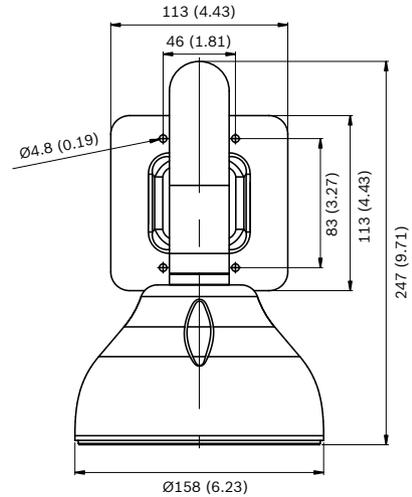
Dimensions in mm (in.)

**VDA-455SMB -Hardened Surface Mount Box**

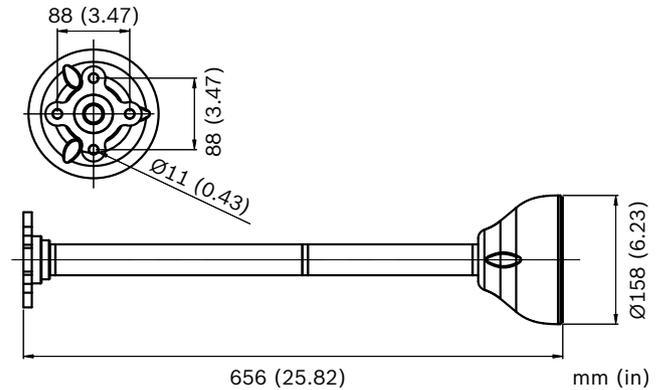


Dimensions in mm (in.) for the FlexiDome<sup>XT+</sup> impact-resistant, surface mounting model

**VDA-WMT-DOME -Pendant Wall Mount**

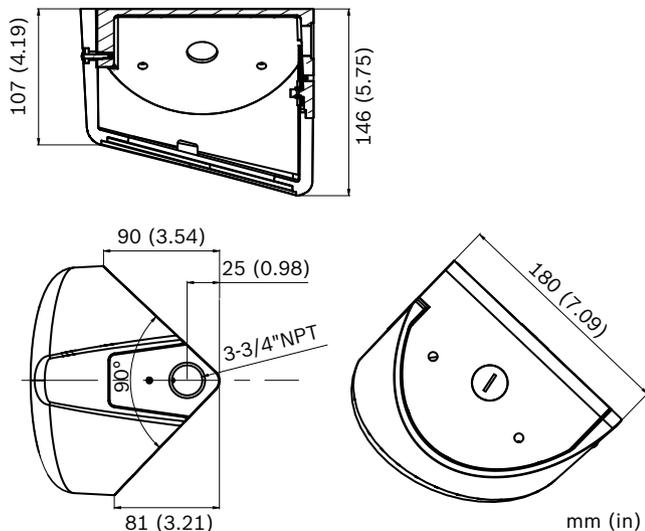


**VDA-PMT-DOME -Pipe Mount**



4 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

VDA-CMT-DOME –Corner Mount



Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

\* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

Technical Specifications

Electrical

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

Sensitivity (3200 K)

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)
VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

Optical

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V) Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V) Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V) Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V) Tele: 12.8° x 9.6° (H x V)

Mechanical

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

VDC-4x5 Series Dome Cameras FlexiDome VF and XT+ | 5

**Environmental**

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

**Ordering Information**

<b>VDC-445V03-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	<b>VDC-445V03-10</b>
<b>VDC-445V03-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-10S</b>
<b>VDC-445V03-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-445V03-20</b>
<b>VDC-445V03-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-20S</b>
<b>VDC-445V04-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-10</b>
<b>VDC-445V04-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-10S</b>
<b>VDC-445V04-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-20</b>
<b>VDC-445V04-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-20S</b>
<b>VDC-455V03-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-10</b>

**Ordering Information**

<b>VDC-455V03-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-10S</b>
<b>VDC-455V03-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-20</b>
<b>VDC-455V03-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-20S</b>
<b>VDC-455V04-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-10</b>
<b>VDC-455V04-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-10S</b>
<b>VDC-455V04-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-20</b>
<b>VDC-455V04-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-20S</b>
<b>VDC-445V09-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-10</b>
<b>VDC-445V09-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-20</b>
<b>VDC-445V09-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-10S</b>
<b>VDC-445V09-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-20S</b>

6 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

**Ordering Information**

**VDC-455V09-10 Vandal Resistant Color Model** **VDC-455V09-10**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-20 Vandal Resistant Color Model** **VDC-455V09-20**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-10S Vandal Resistant Color Model, Surface Mount** **VDC-455V09-10S**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**VDC-455V09-20S Vandal Resistant Color Model, Surface Mount** **VDC-455V09-20S**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**Accessories**

**VDA-445DMY-S** **VDA-445DMY-S**  
Flexidome surface mounted indoor dummy camera

**VDA-445SMB** **VDA-445SMB**  
Surface mount box, indoor for VDM-345 and VDC-445

**VDA-455SMB** **VDA-455SMB**  
Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).

**VDA-455UTP** **VDA-455UTP**  
Adaptor for UTP twisted pair output

**S1460 Service/Monitor Cable** **S1460**  
for FlexiDome analog and IP (2.5 mm connector to BNC), 1 m

**UPA-1509-60 Power Supply** **UPA-1509-60**  
120 VAC, 60 Hz, 15 VDC, 9 VA Out

**UPA-1509-50 Power Supply** **UPA-1509-50**  
220 VAC, 50 Hz, 15 VDC, 9 VA Out

**UPA-2420-50 Power Supply** **UPA-2420-50**  
220 VAC, 50 Hz, 24 VAC, 20 VA Out

**UPA-2450-50 Power Supply** **UPA-2450-50**  
220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.

**VDA-455TBL Tinted bubble** **VDA-455TBL**  
Tinted bubble for FlexiDome series

**VDA-455CBL Clear bubble** **VDA-455CBL**  
Clear Bubble for FlexiDome series

**Ordering Information**

**VDA-WMT-DOME Wall Pendant Mount Bracket** **VDA-WMT-DOME**  
Wall pendant mount bracket for FlexiDome cameras

**VDA-CMT-DOME Corner Mount Bracket** **VDA-CMT-DOME**  
Corner mount bracket for FlexiDome cameras

**VDA-PMT-DOME Pendant Pipe Mount Bracket** **VDA-PMT-DOME**  
Pendant pipe mount bracket for FlexiDome cameras

**Software Options**

**VP-CFGSFT Configuration Software** **VP-CFGSFT**  
for cameras using Bilinx, includes VP-USB Adaptor

**Americas:**  
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Fax: +1 585 223 9180  
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**Represented by**

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parts and Products:Parts and Products:Camera Input Way

**Attachments**

LTC 8903-60 Allegiant Camera Bay.pdf

Video | LTC 8900 Series Allegiant Matrix/Control Systems - Modular

# LTC 8900 Series Allegiant Matrix/Control Systems - Modular

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**BOSCH**  
Invented for life



- ▶ 4096 Camera by 512 monitor switching
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ Includes Windows-based configuration software
- ▶ Includes system controller PC and LCD monitor
- ▶ Preloaded programming and diagnostic software
- ▶ Dual/redundant CPU/power supply

The LTC 8900 Series Allegiant Video Switcher/Control Systems are powerful full matrix switchers, capable of displaying video from any camera on any monitor, either manually or via independent automatic switching sequences. By using the LTC 8901 Series CPU and the LTC 8943 series PC, the standard system can be enhanced to include dual/redundant CPU/Power supply with automatic hot-switchover capabilities.

## Functions

### General Construction

The LTC 8900 Series provides versatile modular construction accommodating up to 4096 camera inputs, 512 monitor outputs, 120 keyboards, 1024 alarm points, and a computer interface port. The robust design utilizes a separate CPU bay with its own power supply.

### Dual/Redundant System

For situations where complete system failure cannot be tolerated, we offer the dual redundant LTC 8901 CPU. This CPU unit incorporates a secondary CPU/power supply. In the event of a primary CPU or power

supply failure, the system switches over automatically to the backup CPU or power supply. The system uses an independent PC that continuously monitors the CPUs for failure and performs a hot-switchover if needed. You can also manually change CPUs using the preloaded software or via a front panel slide switch.

### Sequencing Capabilities

These systems can be programmed with up to 256 sequences, which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability, where any number of system monitors may be selected to switch as a group. Using the supplied software, sequences can automatically activate and deactivate based upon the day or the time of day.

### Camera Control

The LTC 8900 Series support variable speed operation and full programming access for AutoDome and AutoDome Easy II Series cameras. In addition, on-site receiver/drivers are available to provide operator control of pan, tilt, zoom, pre-positions, auxiliaries,

**2 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular**

auto-pan, and random scan functions when used with conventional pan/tilt devices. An integral local test function is also a standard feature.

The LTC 8900 Series include an impressive user-based priority system and a series of programmable lockout tables to limit operator access of remotely controlled devices. Operators can restrict control from lower priority operators either manually or automatically. When enabled to operate automatically, a built-in time-out period is user programmable.

**Bilinx Capability**

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion® AutoDome, and AutoDome Easy II CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

**Macro Capabilities**

The LTC 8900 system provides powerful macro capabilities. Macros can be activated using Allegiant Series system keyboards, timed event functions, and alarm activations.

**Alarm Capabilities**

The LTC 8540/00 alarm interface unit allows external contact closure or logic level input to automatically display cameras on a monitor or group of monitors. The supplied PC software includes the ability to combine multiple alarm operating modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, one can customize a 16-character alarm titles to designate the specific alarm condition.

**System Operation**

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 120 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

**Programming/Software Capabilities**

The LTC 8900 Series includes a black outlined 48-character on-screen display for time/date, camera number, camera ID (16 or 40 characters), and monitor (12 characters) or status information. A user selectable option provides the ability to display a third line of on-screen text. This third line can be configured to display up to 24 additional camera title characters (40 characters total) or a 12-character monitor title. The on-screen display is also user selectable to operate in "6-digit Camera ID" mode. When enabled, 2-digit "site numbers" are displayed in addition to the 4-digit camera number. The 2-digit site number feature

is especially useful when groups of cameras are located in separate buildings, floors, or other common areas.

Over 1,000 characters covering a multitude of languages, (including several hundred Chinese symbols) are available to help program camera ID and monitor titles. Using the supplied PC software, enhanced programming and switching features can be obtained. A user friendly spreadsheet format allows one to easily enter/change camera titles, operator names, timed events (128), system parameters, camera sequences, lockouts, and advanced alarm response programming. The software also provides the ability to enable an on-screen indicator for easy identification of controllable cameras. Another useful feature of the software is its ability to store or print (in real-time) programming information, system events, alarms, switching functions, sequence events, keyboard actions, and video loss information.

**Expansion Capabilities**

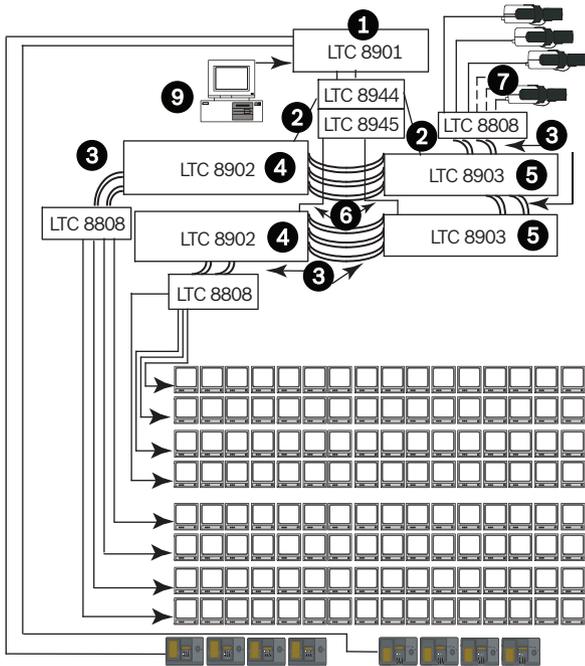
The LTC 8900 Series can serve as the Master or Slave Switcher in a SatelliteSwitch® configuration. This innovative SatelliteSwitch feature enables a single LTC 8900 system to communicate with remotely located Satellite systems. Any Allegiant system can serve as a remote Satellite Switcher. This powerful feature permits the design of large distributed type systems. The main control site can view and control local cameras as well as cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view and control only cameras associated with their local site. When used in this type of configuration, the main LTC 8900 system can access up to 256 Satellite sites.

**Certifications and Approvals**

<b>Electromagnetic Compatibility (EMC)</b>	Complies with FCC Part 15, ICES-003, and CE regulations
<b>Product Safety</b>	Complies with CE regulations, UL, CSA, EN, and IEC Standards

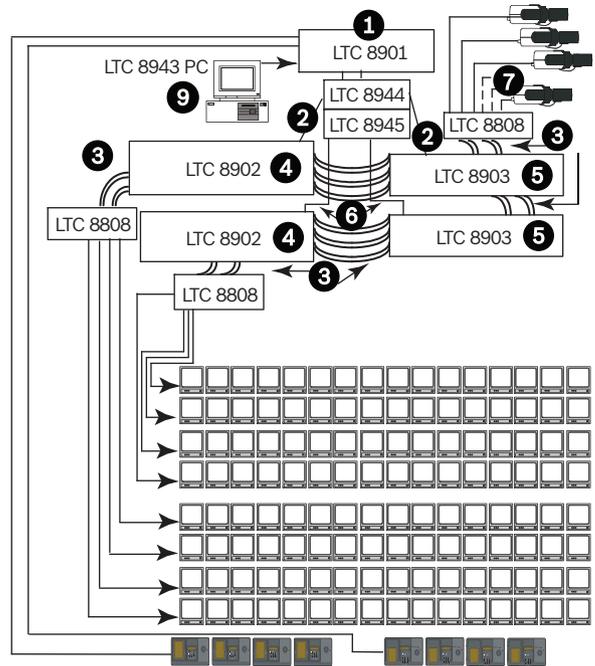
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Installation/Configuration Notes



Typical Diagram of LTC 8904 Series System Configuration (256 Cameras by 128 Monitors)

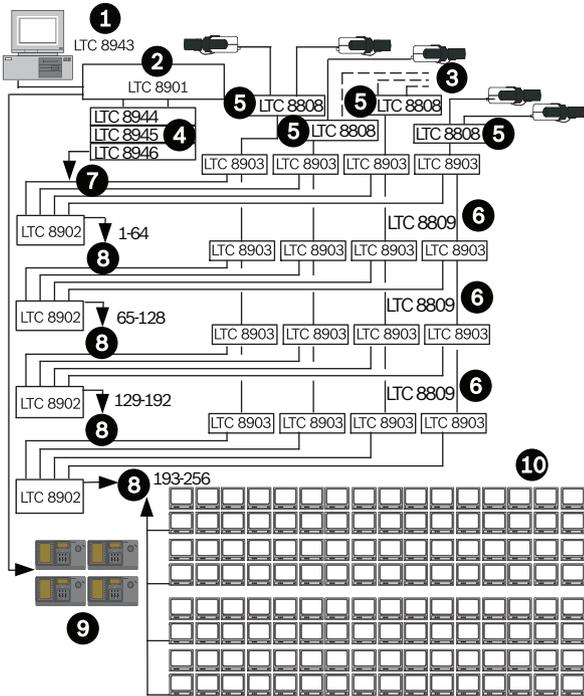
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 User PC



Typical Diagram of LTC 8901 Series Redundant System Configuration (256 Cameras by 128 Monitors)

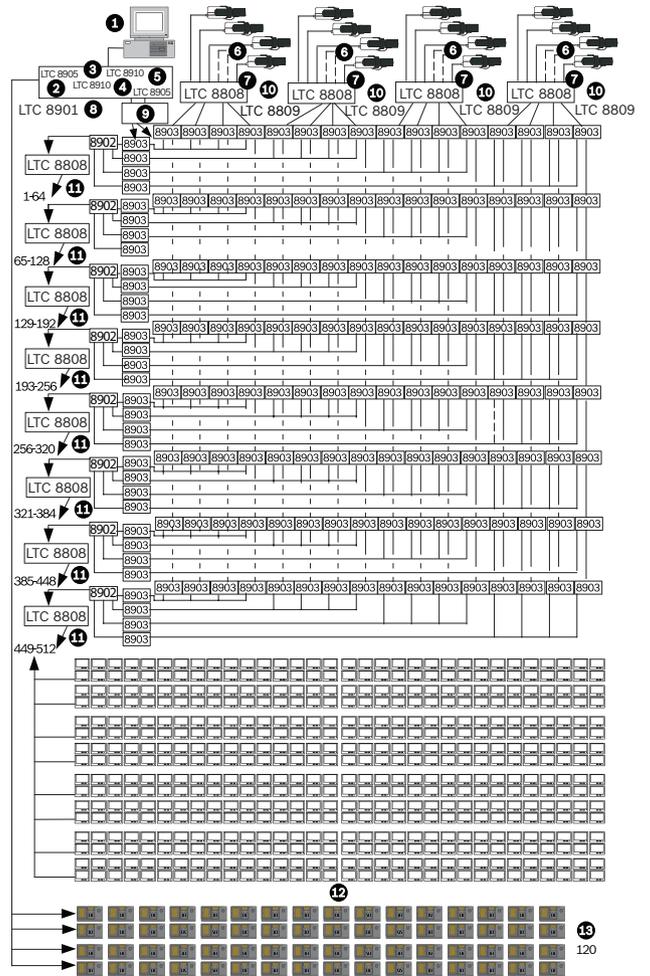
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 PC

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Typical Diagram of LTC 8901 Series Redundant System Configuration (1024 Cameras by 256 Monitors)

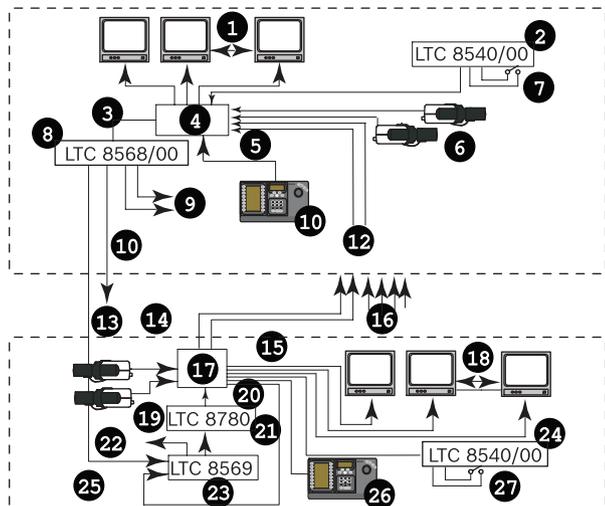
- 1 PC Running Configuration, Redundancy, and Data Mirroring Software
- 2 Main CPU Bay
- 3 Cameras
- 4 LAN Switchers
- 5 Video Panels
- 6 Coax Ribbon Cables
- 7 LAN Data Lines to all Bays
- 8 To Monitors
- 9 Up to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)
- 10 Up to 512 System Monitors
- 0



Typical Diagram of LTC 8901 Series Redundant System Configuration (4096 Cameras by 512 Monitors)

- 1 PC Running Configuration Software
- 2 Main Power Supply
- 3 Main CPU Module
- 4 Backup CPU Module
- 5 Backup Power Supply
- 6 Cameras
- 7 Video Panels
- 8 Main CPU Bay
- 9 LAN Switchers
- 10 Coax Ribbon Cables
- 0
- 1 To Monitors
- 1
- 1 Up to 512 System Monitors
- 2
- 1 UP to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)
- 3

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Allegiant Satellite Switching System

- 1 Monitor Outputs
- 2 Alarm Interface Unit
- 3 Pan/Tilt/Zoom and Satellite Control Data
- 4 Allegiant Main CPU Bay
- 5 Alarm Inputs May Activate Either Local or Satellite Video Main Control Center's Monitor
- 6 Local Camera Video
- 7 Inputs Used for both Local and Trunk Lines
- 8 Signal Distribution Unit
- 9 To any Local Pan/Tilt/Zoom Camera Sites
- 10 Up to 1.5 km (5000 ft) using 1 sq mm (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)
- 11 Allegiant Keyboard Controls any Local or Remote Camera on any Local Monitor (Video and Pan/Tilt/Zoom)
- 12 Multiple Video Trunk Lines from each Remote Satellite Location
- 13 One Line to Each Remote Satellite System Location
- 14 Pan/Tilt/Zoom and Satellite Control Data
- 15 Monitor Outputs used as Video Trunk Lines to Main Control Site
- 16 Video Trunk Lines from other Satellite Locations
- 17 Any Model Allegiant Main Bay
- 18 Local Monitor
- 19 Console Port Input
- 20 Satellite Data Line
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29
- 30

- 2 Data Converter Unit
- 1
- 2 To any Local Pan/Tilt/Zoom Camera Sites
- 2
- 2 Code Merger Unit
- 3
- 2 Alarm Interface Unit
- 4
- 2 Local Pan/Tilt/Zoom Control Data Line
- 5
- 2 Alarm Inputs Activate only Local Video on Local Monitors
- 6
- 2 Allegiant Keyboard Controls any of the Local Cameras on any of the Local Monitors (Video and Pan/Tilt/Zoom)
- 7

Technical Specifications

LTC 8900 Series System Specifications

Capacities			
Video Inputs			
Standard	4096		
Satellite Configuration	6144		
Video Outputs			
512			
Keyboards			
120			
Alarm Inputs			
1024			
Receiver/Drivers			
Standard	4096		
Satellite Configuration	6144		
Electrical			
Input Voltage Level	0.5 Vp-p to 2 Vp-p (composite negative sync)		
Gain	Unity ± 2% (75 Ohm terminated)		
Pulse/Bar Ratios <sup>1</sup>	Min.	Nom.	Max.
	94%	98%	106%
2T Pulse K Factor <sup>1</sup>	Min.	Nom.	Max.
		0.2%	2.5%
Bar Amplitude (IRE) <sup>1</sup>	Min.	Nom.	Max.
	96	98	104
Sync Amplitude (% Bar) <sup>1</sup>	Min.	Nom.	Max.
	36%	39%	44%
Field Time Waveform Distortion <sup>1</sup>	2% maximum		
Line Time Waveform Distortion <sup>1</sup>	1% maximum		
Short Time Waveform Distortion <sup>1</sup>	2% maximum		

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Long Time Waveform Distortion <sup>1</sup>	0.8% maximum		
Video Bandwidth (-3 dB)	17 MHz		
Frequency Response	± 0.5 dB to 11 MHz		
Signal-to-Noise-Ratio <sup>1</sup>	70 dB at 3.58 MHz unified unweighted minimum		
Crosstalk (at 3.58 MHz)	Typical: -65 dB, Adjacent channel: -45 dB (typical)		
Hum	60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz		
Differential Gain <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6%	2%
Differential Phase <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6°	1.3°
Chrominance Luminance Gain	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	94%	100%	109%
Chrominance Luminance Delay <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	-33 ns	+3 ns	+33 ns
Luminance Nonlinearity <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.3%	4%
Switching	Crosspoint matrix		
DC Output	0 V		
Transient Protection (VIM Cards)	350 W Peak Pulse Power (tp = 8/20 µs)		

<sup>1</sup> Meets EIA/TIA - 250C Medium Haul Standard for 1024 cameras x 64 monitors.

**Environmental**

Temperature	
Operating	4°C to 50°C (40°F to 122°F)
Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0 to 95 % relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 m/s, ½ sine wave

**LTC 8904 CPU Equipment Bay**

The LTC 8904/60 and LTC 8904/50 include the equipment rack, LTC 8910/01 microprocessor module, LTC 8905/90 power supply, and LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>2</sup>
LTC 8904/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8904/50	220-240 VAC, 50/60 Hz	198 to 264	30 W

<sup>2</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Port	9-pin D-type RS-232 port for an external PC or computing device (default = 115,200 baud)
Console	9-pin D-type RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	9-pin D-type RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Bi-Phase	9-pin D-type TTL level, high-speed control data output (BiPhase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two 9-pin D-type RS-485 ports for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	RJ-45 high-speed LAN port for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8946 Series LAN switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	7.2 kg (15.85 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Module (LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (One-LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Front Panel Indicators	Power, CPU activity

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**LTC 8901 Series CPU Equipment Bay**

The LTC 8901/60 and LTC 8901/50 include the equipment rack, dual LTC 8910/01 microprocessor modules, dual LTC 8905/90 power supplies, and one LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>3</sup>
LTC 8901/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8901/50	220–240 VAC, 50/60 Hz	198 to 264	30 W

<sup>3</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Ports	Two (2), RS-232 ports for an LTC 8943 PC controller interface (default = 115,200 baud)
Console	RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Switch Ctrl	Digital interface port for the LTC 8943 PC controller
Bi-Phase	TTL level, hi-speed control data output (Bi-Phase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two (2), RS-485 port for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	Two RJ-45 high-speed LAN ports for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8944 Series and LTC 8945 Series LAN Switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	8 kg (17.6 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Modules (Two–LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supplies (Two–LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
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**Front Panel Indicators**

**LTC 8901**  
 Primary power  
 Primary fault  
 Back-up power  
 Back-up fault  
 Primary CPU in-use  
 Controller activity  
 Back-up CPU in-use  
 Auto-select mode  
 Primary CPU activity  
 Fault buzzer  
 Back-up CPU activity  
**LTC 8904**  
 Power  
 CPU Activity

**Rear Panel Indicators**

Relay outputs<sup>4</sup>  
 Primary CPU fault  
 Back-up power supply failure  
 Back-up CPU fault  
 Any failure  
 Primary power supply failure

<sup>4</sup> Relay Contacts: 24 VAC, 40 V peak, 1 A.

**LTC 8902 Series Monitor Output Bays**

The LTC 8902/60 and LTC 8902/50 include the equipment rack, LTC 8916/01 data receiver module, and LTC 8906 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>5</sup>
LTC 8902/60	120 VAC, 50/60 Hz	100 to 140	160 W
LTC 8902/50	220–240 VAC, 50/60 Hz	198 to 264	160 W

<sup>5</sup> Power at rated voltage fully loaded.

**Connectors**

Video Outputs	Four (4), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Video Bus Connections	Sixteen (16), 34-pin ribbon connectors interconnect with LTC 8903 Series Camera Input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use

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EXT Sync	BNC input used to synchronize the unit to an external sync signal. Accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V Sync	BNC connector provides an output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to the LTC 8901 Main CPU bay via system LAN Switches. (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8916/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8906/60 or LTC 8906/50)**

Dimensions (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8903 Series Camera Input Bays**

The LTC 8903/60 and LTC 8903/50 include the equipment rack, LTC 8918/01 data receiver module, and LTC 8805 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>6</sup>
LTC 8903/60	120 VAC, 50/60 Hz	100 to 140	85 W
LTC 8903/50	220–240 VAC, 50/60 Hz	198 to 264	85 W

<sup>6</sup> Power at rated voltage fully loaded.

**Connectors**

Video Inputs	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Looping Video Input Connections	Sixteen (16), 34-pin ribbon connectors used with LTC 8809/00 ribbon cables (supplied as required to loop to additional LTC 8903 Series bays)

Video Bus Connections	Four (4), 34-pin ribbon connectors interconnect with LTC 8903 Series camera input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use
EXT SYNC	BNC input used to synchronize unit to external sync signal; accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V SYNC	BNC connector provides output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to LTC 8901 main CPU bay via system LAN Switches (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8918/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8805/60 or LTC 8805/50)**

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8921/00 Video Input Module**

Use up to sixteen per LTC 8903 Series camera input bays.

Camera Inputs	32
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8934/00 Video Output Module**

Use up to eight per LTC 8902 Series monitor output bays.

Monitor Outputs	8
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Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8941/91 System Controller**

**(Redundant System Configurations Only)**

Includes LTC 8943/94 PC, LTC 8944/93 Primary LAN Switch and LTC 8945/93 Backup LAN Switch

LTC 8943/94 PC	Rack-mount industrial-grade Pentium PC, 512 MB RAM (minimum), 8 GB solid state hard drive (minimum), CD-/DVD burner, floppy drive, keyboard, mouse, keyboard/mouse rack-mount shelf, and Windows XP Professional; 120/230 VAC, 50/60 Hz
LTC 8059/00	Allegiant Master Control software (installed on PC)
Monitor (UML-191-90)	48.3 cm (19 in.) LCD panel 120/230 VAC, 50/60 Hz
Monitor Rack (UMM-LCDUB-RM)	Racked Height: 37.4 cm (14.7 in.) Racked Width: 48.3 cm (19.0 in.)
LTC 8944/93 Primary LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with primary IP Address; 120/220 VAC, 50/60 Hz
LTC 8945/93 Back-Up LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with back-up IP Address; 120/220 VAC, 50/60 Hz

**LTC 8946/93 Expansion LAN Switch**

24-port 10/100BaseT Ethernet Switch, no SNMP module; 120/220 VAC, 50/60 Hz

**LTC 8808/00 Video Interconnect Panel**

The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16-channel ribbon cable connectors. The two (2) coaxial ribbon cables (LTC 8809/00), designed especially for use with video signals, and are then used to interconnect the video between the panel and the LTC 8900 system. Use of the LTC 8808/00 assemblies are required for all external video input and output connections. In addition to being used for video inputs and monitor outputs, the LTC 8808/00 assembly is also used to provide looping capability. One (1) LTC 8808/00 (includes panel and two ribbon cables) is required for each group of 32 system cameras or 32 monitors.

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)
<b>Weight</b>	
• Panel	0.54 kg (1.2 lb)
• Ribbon Cables	Two (2), 0.3 kg (0.7 lb)
Construction	Metal
Finish	Charcoal

**Allegiant Accessories**

The LTC 8900 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, code merger units, video ribbon cables, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

**Ordering Information**

**LTC 8901/50 Allegiant Dual CPU Bay**

Dual CPU bay, 230 VAC  
Order number **LTC 8901/50**

**LTC 8901/60 Allegiant Dual CPU Bay**

Dual CPU bay, 120 VAC  
Order number **LTC 8901/60**

**LTC 8902/50 Allegiant Monitor Bay**

Monitor bay, 230 VAC  
Order number **LTC 8902/50**

**LTC 8902/60 Allegiant Monitor Bay**

Monitor bay, 120 VAC  
Order number **LTC 8902/60**

**LTC 8903/50 Allegiant Camera Bay**

Camera bay, 230 VAC  
Order number **LTC 8903/50**

**LTC 8903/60 Allegiant Camera Bay**

Camera bay, 120 VAC  
Order number **LTC 8903/60**

**LTC 8904/50 Allegiant CPU Bay**

CPU bay, 230 VAC  
Order number **LTC 8904/50**

**LTC 8904/60 Allegiant CPU Bay**

CPU bay, 120 VAC  
Order number **LTC 8904/60**

**LTC 8905/90 Power Supply**

for LTC 8901 and LTC 8904 Series, 120/240 VAC  
Order number **LTC 8905/90**

**LTC 8906/50 Power Supply**

for LTC 8902/50, 230 VAC  
Order number **LTC 8906/50**

**LTC 8906/60 Power Supply**

for LTC 8902/60, 120 VAC  
Order number **LTC 8906/60**

**LTC 8910/01 CPU Module**

CPU module for LTC 8901 and LTC 8904 Series  
Order number **LTC 8910/01**

**LTC 8916/01 Data Receiving Module**

for LTC 8902 Series  
Order number **LTC 8916/01**

**10 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular****LTC 8917/00 Relay Module**

for LTC 8901 Series

Order number **LTC 8917/00****LTC 8918/01 Data Receiving Module**

for LTC 8903 series

Order number **LTC 8918/01****LTC 8921/00 Video Input Module**

for LTC 8900 Series

Order number **LTC 8921/00****LTC 8934/00 Video Output Module**

for LTC 8900 Series

Order number **LTC 8934/00****LTC 8934/00-75 VOM**

LTC 8900 VOM with Korean characters

Order number **LTC 8934/00-75****LTC 8941/91 PC/Monitor/LAN/Software Package**

for LTC 8901 Series

Order number **LTC 8941/91****LTC 8944/92 Programmed 12-port Primary LAN**Order number **LTC 8944/92****LTC 8945/92 Programmed 12-port Backup LAN**Order number **LTC 8945/92****LTC 8946/92 Basic 12-port Expansion LAN**Order number **LTC 8946/92****Accessories****LTC 8944/93 Programmed 24-port Primary LAN Switch**Order number **LTC 8944/93****LTC 8945/93 Programmed 24-port Backup LAN Switch**Order number **LTC 8945/93****LTC 8946/93 Basic 24-port Expansion LAN Switch**Order number **LTC 8946/93****Software Options****SFT-VASA Hybrid IP - Analog/Matrix Video over IP Integration Software**Order number **SFT-VASA****LTC 8850/00 GUI Allegiant Single User Software Package**Order number **LTC 8850/00****SFT-INTSRV Integration Server Software**

Allegiant integration software package

Order number **SFT-INTSRV****Represented by:****Americas:**

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
security.sales@us.bosch.com  
www.boschsecurity.us

**Europe, Middle East, Africa:**

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5617 BA Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

**Asia-Pacific:**

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11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
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www.boschsecurity.com

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parts and Products:Parts and Products:Parts and Products:Monitor Output Way

**Attachments**

LTC 8903-60 Allegiant Camera Bay.pdf

Video | LTC 8900 Series Allegiant Matrix/Control Systems - Modular

# LTC 8900 Series Allegiant Matrix/Control Systems - Modular

www.boschsecurity.com



**BOSCH**

Invented for life



- ▶ 4096 Camera by 512 monitor switching
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ Includes Windows-based configuration software
- ▶ Includes system controller PC and LCD monitor
- ▶ Preloaded programming and diagnostic software
- ▶ Dual/redundant CPU/power supply

The LTC 8900 Series Allegiant Video Switcher/Control Systems are powerful full matrix switchers, capable of displaying video from any camera on any monitor, either manually or via independent automatic switching sequences. By using the LTC 8901 Series CPU and the LTC 8943 series PC, the standard system can be enhanced to include dual/redundant CPU/Power supply with automatic hot-switchover capabilities.

## Functions

### General Construction

The LTC 8900 Series provides versatile modular construction accommodating up to 4096 camera inputs, 512 monitor outputs, 120 keyboards, 1024 alarm points, and a computer interface port. The robust design utilizes a separate CPU bay with its own power supply.

### Dual/Redundant System

For situations where complete system failure cannot be tolerated, we offer the dual redundant LTC 8901 CPU. This CPU unit incorporates a secondary CPU/power supply. In the event of a primary CPU or power

supply failure, the system switches over automatically to the backup CPU or power supply. The system uses an independent PC that continuously monitors the CPUs for failure and performs a hot-switchover if needed. You can also manually change CPUs using the preloaded software or via a front panel slide switch.

### Sequencing Capabilities

These systems can be programmed with up to 256 sequences, which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability, where any number of system monitors may be selected to switch as a group. Using the supplied software, sequences can automatically activate and deactivate based upon the day or the time of day.

### Camera Control

The LTC 8900 Series support variable speed operation and full programming access for AutoDome and AutoDome Easy II Series cameras. In addition, on-site receiver/drivers are available to provide operator control of pan, tilt, zoom, pre-positions, auxiliaries,

**2 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular**

auto-pan, and random scan functions when used with conventional pan/tilt devices. An integral local test function is also a standard feature.

The LTC 8900 Series include an impressive user-based priority system and a series of programmable lockout tables to limit operator access of remotely controlled devices. Operators can restrict control from lower priority operators either manually or automatically. When enabled to operate automatically, a built-in time-out period is user programmable.

**Bilinx Capability**

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion® AutoDome, and AutoDome Easy II CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

**Macro Capabilities**

The LTC 8900 system provides powerful macro capabilities. Macros can be activated using Allegiant Series system keyboards, timed event functions, and alarm activations.

**Alarm Capabilities**

The LTC 8540/00 alarm interface unit allows external contact closure or logic level input to automatically display cameras on a monitor or group of monitors. The supplied PC software includes the ability to combine multiple alarm operating modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, one can customize a 16-character alarm titles to designate the specific alarm condition.

**System Operation**

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 120 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

**Programming/Software Capabilities**

The LTC 8900 Series includes a black outlined 48-character on-screen display for time/date, camera number, camera ID (16 or 40 characters), and monitor (12 characters) or status information. A user selectable option provides the ability to display a third line of on-screen text. This third line can be configured to display up to 24 additional camera title characters (40 characters total) or a 12-character monitor title. The on-screen display is also user selectable to operate in "6-digit Camera ID" mode. When enabled, 2-digit "site numbers" are displayed in addition to the 4-digit camera number. The 2-digit site number feature

is especially useful when groups of cameras are located in separate buildings, floors, or other common areas.

Over 1,000 characters covering a multitude of languages, (including several hundred Chinese symbols) are available to help program camera ID and monitor titles. Using the supplied PC software, enhanced programming and switching features can be obtained. A user friendly spreadsheet format allows one to easily enter/change camera titles, operator names, timed events (128), system parameters, camera sequences, lockouts, and advanced alarm response programming. The software also provides the ability to enable an on-screen indicator for easy identification of controllable cameras. Another useful feature of the software is its ability to store or print (in real-time) programming information, system events, alarms, switching functions, sequence events, keyboard actions, and video loss information.

**Expansion Capabilities**

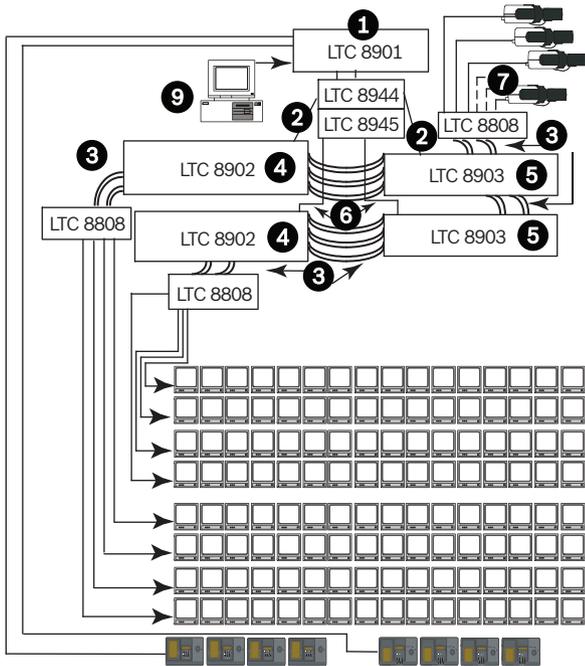
The LTC 8900 Series can serve as the Master or Slave Switcher in a SatelliteSwitch® configuration. This innovative SatelliteSwitch feature enables a single LTC 8900 system to communicate with remotely located Satellite systems. Any Allegiant system can serve as a remote Satellite Switcher. This powerful feature permits the design of large distributed type systems. The main control site can view and control local cameras as well as cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view and control only cameras associated with their local site. When used in this type of configuration, the main LTC 8900 system can access up to 256 Satellite sites.

**Certifications and Approvals**

<b>Electromagnetic Compatibility (EMC)</b>	Complies with FCC Part 15, ICES-003, and CE regulations
<b>Product Safety</b>	Complies with CE regulations, UL, CSA, EN, and IEC Standards

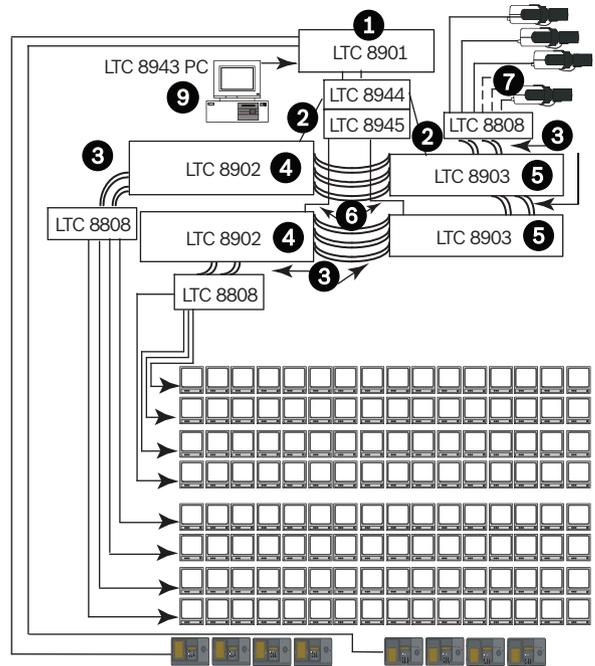
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Installation/Configuration Notes



Typical Diagram of LTC 8904 Series System Configuration (256 Cameras by 128 Monitors)

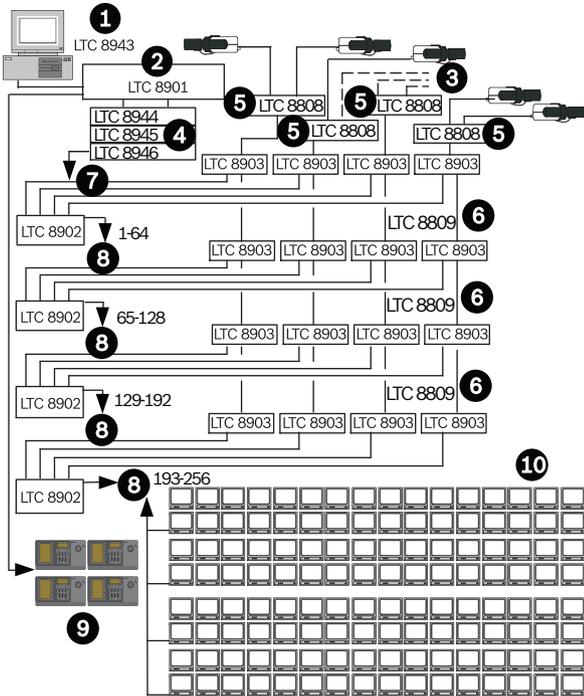
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 User PC



Typical Diagram of LTC 8901 Series Redundant System Configuration (256 Cameras by 128 Monitors)

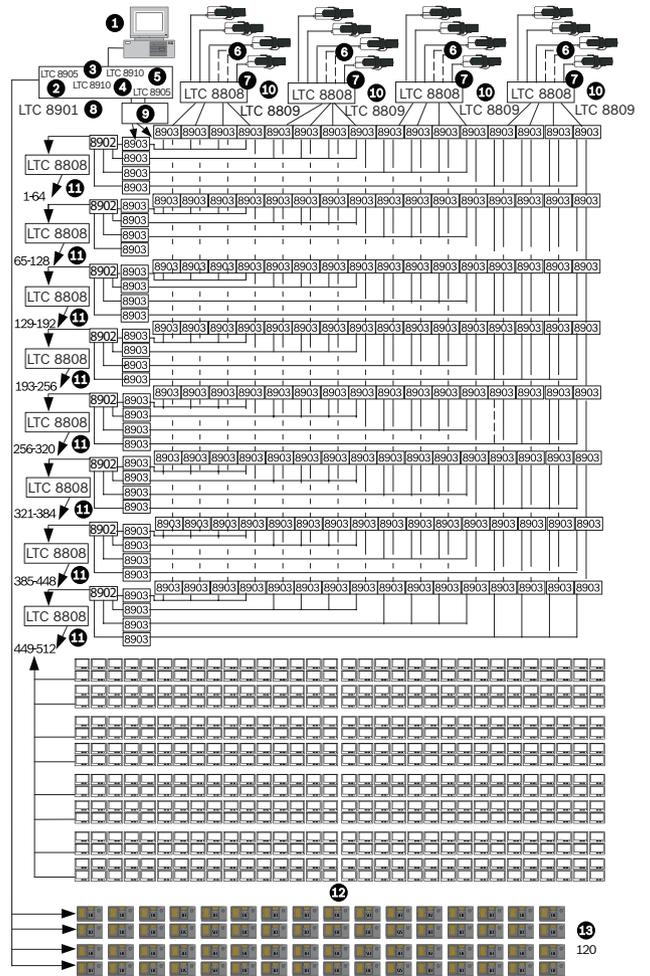
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 PC

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Typical Diagram of LTC 8901 Series Redundant System Configuration (1024 Cameras by 256 Monitors)

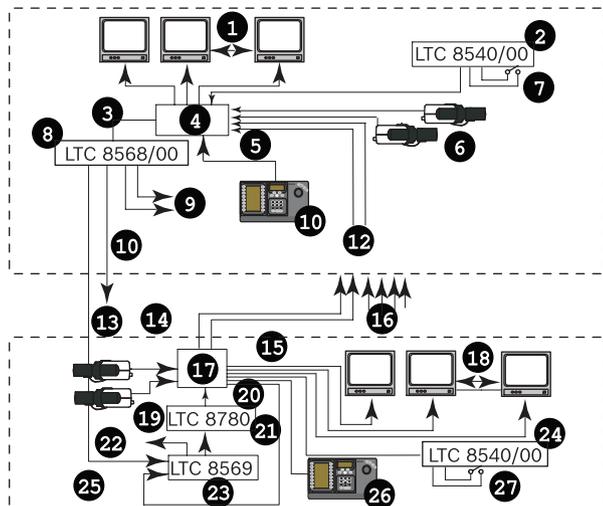
- 1 PC Running Configuration, Redundancy, and Data Mirroring Software
- 2 Main CPU Bay
- 3 Cameras
- 4 LAN Switchers
- 5 Video Panels
- 6 Coax Ribbon Cables
- 7 LAN Data Lines to all Bays
- 8 To Monitors
- 9 Up to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)
- 10 Up to 512 System Monitors
- 0



Typical Diagram of LTC 8901 Series Redundant System Configuration (4096 Cameras by 512 Monitors)

- 1 PC Running Configuration Software
- 2 Main Power Supply
- 3 Main CPU Module
- 4 Backup CPU Module
- 5 Backup Power Supply
- 6 Cameras
- 7 Video Panels
- 8 Main CPU Bay
- 9 LAN Switchers
- 10 Coax Ribbon Cables
- 0
- 1 To Monitors
- 1
- 1 Up to 512 System Monitors
- 2
- 1 UP to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)
- 3

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Allegiant Satellite Switching System

- 1 Monitor Outputs
- 2 Alarm Interface Unit
- 3 Pan/Tilt/Zoom and Satellite Control Data
- 4 Allegiant Main CPU Bay
- 5 Alarm Inputs May Activate Either Local or Satellite Video Main Control Center's Monitor
- 6 Local Camera Video
- 7 Inputs Used for both Local and Trunk Lines
- 8 Signal Distribution Unit
- 9 To any Local Pan/Tilt/Zoom Camera Sites
- 10 Up to 1.5 km (5000 ft) using 1 sq mm (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)
- 11 Allegiant Keyboard Controls any Local or Remote Camera on any Local Monitor (Video and Pan/Tilt/Zoom)
- 12 Multiple Video Trunk Lines from each Remote Satellite Location
- 13 One Line to Each Remote Satellite System Location
- 14 Pan/Tilt/Zoom and Satellite Control Data
- 15 Monitor Outputs used as Video Trunk Lines to Main Control Site
- 16 Video Trunk Lines from other Satellite Locations
- 17 Any Model Allegiant Main Bay
- 18 Local Monitor
- 19 Console Port Input
- 20 Satellite Data Line
- 21
- 22
- 23
- 24
- 25
- 26
- 27

- 2 Data Converter Unit
- 1
- 2 To any Local Pan/Tilt/Zoom Camera Sites
- 2
- 2 Code Merger Unit
- 3
- 2 Alarm Interface Unit
- 4
- 2 Local Pan/Tilt/Zoom Control Data Line
- 5
- 2 Alarm Inputs Activate only Local Video on Local Monitors
- 6
- 2 Allegiant Keyboard Controls any of the Local Cameras on any of the Local Monitors (Video and Pan/Tilt/Zoom)
- 7

Technical Specifications

LTC 8900 Series System Specifications

Capacities			
Video Inputs			
Standard	4096		
Satellite Configuration	6144		
Video Outputs			
512			
Keyboards			
120			
Alarm Inputs			
1024			
Receiver/Drivers			
Standard	4096		
Satellite Configuration	6144		
Electrical			
Input Voltage Level	0.5 Vp-p to 2 Vp-p (composite negative sync)		
Gain	Unity ± 2% (75 Ohm terminated)		
Pulse/Bar Ratios <sup>1</sup>	Min.	Nom.	Max.
	94%	98%	106%
2T Pulse K Factor <sup>1</sup>	Min.	Nom.	Max.
		0.2%	2.5%
Bar Amplitude (IRE) <sup>1</sup>	Min.	Nom.	Max.
	96	98	104
Sync Amplitude (% Bar) <sup>1</sup>	Min.	Nom.	Max.
	36%	39%	44%
Field Time Waveform Distortion <sup>1</sup>	2% maximum		
Line Time Waveform Distortion <sup>1</sup>	1% maximum		
Short Time Waveform Distortion <sup>1</sup>	2% maximum		

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Long Time Waveform Distortion <sup>1</sup>	0.8% maximum		
Video Bandwidth (-3 dB)	17 MHz		
Frequency Response	± 0.5 dB to 11 MHz		
Signal-to-Noise-Ratio <sup>1</sup>	70 dB at 3.58 MHz unified unweighted minimum		
Crosstalk (at 3.58 MHz)	Typical: -65 dB, Adjacent channel: -45 dB (typical)		
Hum	60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz		
Differential Gain <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6%	2%
Differential Phase <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6°	1.3°
Chrominance Luminance Gain	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	94%	100%	109%
Chrominance Luminance Delay <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	-33 ns	+3 ns	+33 ns
Luminance Nonlinearity <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.3%	4%
Switching	Crosspoint matrix		
DC Output	0 V		
Transient Protection (VIM Cards)	350 W Peak Pulse Power (tp = 8/20 µs)		

<sup>1</sup> Meets EIA/TIA - 250C Medium Haul Standard for 1024 cameras x 64 monitors.

**Environmental**

Temperature	
Operating	4°C to 50°C (40°F to 122°F)
Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0 to 95 % relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 m/s, ½ sine wave

**LTC 8904 CPU Equipment Bay**

The LTC 8904/60 and LTC 8904/50 include the equipment rack, LTC 8910/01 microprocessor module, LTC 8905/90 power supply, and LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>2</sup>
LTC 8904/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8904/50	220-240 VAC, 50/60 Hz	198 to 264	30 W

<sup>2</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Port	9-pin D-type RS-232 port for an external PC or computing device (default = 115,200 baud)
Console	9-pin D-type RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	9-pin D-type RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Bi-Phase	9-pin D-type TTL level, high-speed control data output (BiPhase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two 9-pin D-type RS-485 ports for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	RJ-45 high-speed LAN port for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8946 Series LAN switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	7.2 kg (15.85 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Module (LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (One-LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Front Panel Indicators	Power, CPU activity

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**LTC 8901 Series CPU Equipment Bay**

The LTC 8901/60 and LTC 8901/50 include the equipment rack, dual LTC 8910/01 microprocessor modules, dual LTC 8905/90 power supplies, and one LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>3</sup>
LTC 8901/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8901/50	220–240 VAC, 50/60 Hz	198 to 264	30 W

<sup>3</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Ports	Two (2), RS-232 ports for an LTC 8943 PC controller interface (default = 115,200 baud)
Console	RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Switch Ctrl	Digital interface port for the LTC 8943 PC controller
Bi-Phase	TTL level, hi-speed control data output (Bi-Phase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two (2), RS-485 port for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	Two RJ-45 high-speed LAN ports for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8944 Series and LTC 8945 Series LAN Switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	8 kg (17.6 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Modules (Two–LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supplies (Two–LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
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**Front Panel Indicators**

- LTC 8901**  
 Primary power  
 Primary fault  
 Back-up power  
 Back-up fault  
 Primary CPU in-use  
 Controller activity  
 Back-up CPU in-use  
 Auto-select mode  
 Primary CPU activity  
 Fault buzzer  
 Back-up CPU activity  
**LTC 8904**  
 Power  
 CPU Activity

**Rear Panel Indicators**

- Relay outputs<sup>4</sup>  
 Primary CPU fault  
 Back-up power supply failure  
 Back-up CPU fault  
 Any failure  
 Primary power supply failure

<sup>4</sup> Relay Contacts: 24 VAC, 40 V peak, 1 A.

**LTC 8902 Series Monitor Output Bays**

The LTC 8902/60 and LTC 8902/50 include the equipment rack, LTC 8916/01 data receiver module, and LTC 8906 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>5</sup>
LTC 8902/60	120 VAC, 50/60 Hz	100 to 140	160 W
LTC 8902/50	220–240 VAC, 50/60 Hz	198 to 264	160 W

<sup>5</sup> Power at rated voltage fully loaded.

**Connectors**

Video Outputs	Four (4), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Video Bus Connections	Sixteen (16), 34-pin ribbon connectors interconnect with LTC 8903 Series Camera Input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use

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EXT Sync	BNC input used to synchronize the unit to an external sync signal. Accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V Sync	BNC connector provides an output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to the LTC 8901 Main CPU bay via system LAN Switches. (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8916/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8906/60 or LTC 8906/50)**

Dimensions (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8903 Series Camera Input Bays**

The LTC 8903/60 and LTC 8903/50 include the equipment rack, LTC 8918/01 data receiver module, and LTC 8805 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>6</sup>
LTC 8903/60	120 VAC, 50/60 Hz	100 to 140	85 W
LTC 8903/50	220–240 VAC, 50/60 Hz	198 to 264	85 W

<sup>6</sup> Power at rated voltage fully loaded.

**Connectors**

Video Inputs	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Looping Video Input Connections	Sixteen (16), 34-pin ribbon connectors used with LTC 8809/00 ribbon cables (supplied as required to loop to additional LTC 8903 Series bays)

Video Bus Connections	Four (4), 34-pin ribbon connectors interconnect with LTC 8903 Series camera input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use
EXT SYNC	BNC input used to synchronize unit to external sync signal; accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V SYNC	BNC connector provides output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to LTC 8901 main CPU bay via system LAN Switches (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8918/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8805/60 or LTC 8805/50)**

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8921/00 Video Input Module**

Use up to sixteen per LTC 8903 Series camera input bays.

Camera Inputs	32
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8934/00 Video Output Module**

Use up to eight per LTC 8902 Series monitor output bays.

Monitor Outputs	8
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Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8941/91 System Controller**

**(Redundant System Configurations Only)**

Includes LTC 8943/94 PC, LTC 8944/93 Primary LAN Switch and LTC 8945/93 Backup LAN Switch

LTC 8943/94 PC	Rack-mount industrial-grade Pentium PC, 512 MB RAM (minimum), 8 GB solid state hard drive (minimum), CD-/DVD burner, floppy drive, keyboard, mouse, keyboard/mouse rack-mount shelf, and Windows XP Professional; 120/230 VAC, 50/60 Hz
LTC 8059/00	Allegiant Master Control software (installed on PC)
Monitor (UML-191-90)	48.3 cm (19 in.) LCD panel 120/230 VAC, 50/60 Hz
Monitor Rack (UMM-LCDUB-RM)	Racked Height: 37.4 cm (14.7 in.) Racked Width: 48.3 cm (19.0 in.)
LTC 8944/93 Primary LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with primary IP Address; 120/220 VAC, 50/60 Hz
LTC 8945/93 Back-Up LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with back-up IP Address; 120/220 VAC, 50/60 Hz

**LTC 8946/93 Expansion LAN Switch**

24-port 10/100BaseT Ethernet Switch, no SNMP module; 120/220 VAC, 50/60 Hz

**LTC 8808/00 Video Interconnect Panel**

The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16-channel ribbon cable connectors. The two (2) coaxial ribbon cables (LTC 8809/00), designed especially for use with video signals, and are then used to interconnect the video between the panel and the LTC 8900 system. Use of the LTC 8808/00 assemblies are required for all external video input and output connections. In addition to being used for video inputs and monitor outputs, the LTC 8808/00 assembly is also used to provide looping capability. One (1) LTC 8808/00 (includes panel and two ribbon cables) is required for each group of 32 system cameras or 32 monitors.

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)
<b>Weight</b>	
• Panel	0.54 kg (1.2 lb)
• Ribbon Cables	Two (2), 0.3 kg (0.7 lb)
Construction	Metal
Finish	Charcoal

**Allegiant Accessories**

The LTC 8900 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, code merger units, video ribbon cables, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

**Ordering Information**

**LTC 8901/50 Allegiant Dual CPU Bay**

Dual CPU bay, 230 VAC  
Order number **LTC 8901/50**

**LTC 8901/60 Allegiant Dual CPU Bay**

Dual CPU bay, 120 VAC  
Order number **LTC 8901/60**

**LTC 8902/50 Allegiant Monitor Bay**

Monitor bay, 230 VAC  
Order number **LTC 8902/50**

**LTC 8902/60 Allegiant Monitor Bay**

Monitor bay, 120 VAC  
Order number **LTC 8902/60**

**LTC 8903/50 Allegiant Camera Bay**

Camera bay, 230 VAC  
Order number **LTC 8903/50**

**LTC 8903/60 Allegiant Camera Bay**

Camera bay, 120 VAC  
Order number **LTC 8903/60**

**LTC 8904/50 Allegiant CPU Bay**

CPU bay, 230 VAC  
Order number **LTC 8904/50**

**LTC 8904/60 Allegiant CPU Bay**

CPU bay, 120 VAC  
Order number **LTC 8904/60**

**LTC 8905/90 Power Supply**

for LTC 8901 and LTC 8904 Series, 120/240 VAC  
Order number **LTC 8905/90**

**LTC 8906/50 Power Supply**

for LTC 8902/50, 230 VAC  
Order number **LTC 8906/50**

**LTC 8906/60 Power Supply**

for LTC 8902/60, 120 VAC  
Order number **LTC 8906/60**

**LTC 8910/01 CPU Module**

CPU module for LTC 8901 and LTC 8904 Series  
Order number **LTC 8910/01**

**LTC 8916/01 Data Receiving Module**

for LTC 8902 Series  
Order number **LTC 8916/01**

**10 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular****LTC 8917/00 Relay Module**

for LTC 8901 Series

Order number **LTC 8917/00****LTC 8918/01 Data Receiving Module**

for LTC 8903 series

Order number **LTC 8918/01****LTC 8921/00 Video Input Module**

for LTC 8900 Series

Order number **LTC 8921/00****LTC 8934/00 Video Output Module**

for LTC 8900 Series

Order number **LTC 8934/00****LTC 8934/00-75 VOM**

LTC 8900 VOM with Korean characters

Order number **LTC 8934/00-75****LTC 8941/91 PC/Monitor/LAN/Software Package**

for LTC 8901 Series

Order number **LTC 8941/91****LTC 8944/92 Programmed 12-port Primary LAN**Order number **LTC 8944/92****LTC 8945/92 Programmed 12-port Backup LAN**Order number **LTC 8945/92****LTC 8946/92 Basic 12-port Expansion LAN**Order number **LTC 8946/92****Accessories****LTC 8944/93 Programmed 24-port Primary LAN Switch**Order number **LTC 8944/93****LTC 8945/93 Programmed 24-port Backup LAN Switch**Order number **LTC 8945/93****LTC 8946/93 Basic 24-port Expansion LAN Switch**Order number **LTC 8946/93****Software Options****SFT-VASA Hybrid IP - Analog/Matrix Video over IP Integration Software**Order number **SFT-VASA****LTC 8850/00 GUI Allegiant Single User Software Package**Order number **LTC 8850/00****SFT-INTSRV Integration Server Software**

Allegiant integration software package

Order number **SFT-INTSRV****Represented by:****Americas:**

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
security.sales@us.bosch.com  
www.boschsecurity.us

**Europe, Middle East, Africa:**

Bosch Security Systems B.V.  
P.O. Box 80002  
5617 BA Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

**Asia-Pacific:**

Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
www.boschsecurity.asia

**China:**

Bosch (Shanghai) Security Systems Ltd.  
201 Building, No. 333 Fuquan Road  
North IBP  
Changning District, Shanghai  
200335 China  
Phone +86 21 22181111  
Fax: +86 21 22182398  
www.boschsecurity.com.cn

**America Latina:**

Robert Bosch Ltda Security Systems Division  
Via Anhanguera, Km 98  
CEP 13065-900  
Campinas, Sao Paulo, Brazil  
Phone: +55 19 2103 2860  
Fax: +55 19 2103 2862  
al.securitysystems@bosch.com  
www.boschsecurity.com

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parts and Products:Parts and Products:Parts and Products:Parts and Products:Lan Hub

**Attachments**

LTC 8903-60 Allegiant Camera Bay.pdf

Video | LTC 8900 Series Allegiant Matrix/Control Systems - Modular

# LTC 8900 Series Allegiant Matrix/Control Systems - Modular

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**BOSCH**

Invented for life



- ▶ 4096 Camera by 512 monitor switching
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ Includes Windows-based configuration software
- ▶ Includes system controller PC and LCD monitor
- ▶ Preloaded programming and diagnostic software
- ▶ Dual/redundant CPU/power supply

The LTC 8900 Series Allegiant Video Switcher/Control Systems are powerful full matrix switchers, capable of displaying video from any camera on any monitor, either manually or via independent automatic switching sequences. By using the LTC 8901 Series CPU and the LTC 8943 series PC, the standard system can be enhanced to include dual/redundant CPU/Power supply with automatic hot-switchover capabilities.

## Functions

### General Construction

The LTC 8900 Series provides versatile modular construction accommodating up to 4096 camera inputs, 512 monitor outputs, 120 keyboards, 1024 alarm points, and a computer interface port. The robust design utilizes a separate CPU bay with its own power supply.

### Dual/Redundant System

For situations where complete system failure cannot be tolerated, we offer the dual redundant LTC 8901 CPU. This CPU unit incorporates a secondary CPU/power supply. In the event of a primary CPU or power

supply failure, the system switches over automatically to the backup CPU or power supply. The system uses an independent PC that continuously monitors the CPUs for failure and performs a hot-switchover if needed. You can also manually change CPUs using the preloaded software or via a front panel slide switch.

### Sequencing Capabilities

These systems can be programmed with up to 256 sequences, which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability, where any number of system monitors may be selected to switch as a group. Using the supplied software, sequences can automatically activate and deactivate based upon the day or the time of day.

### Camera Control

The LTC 8900 Series support variable speed operation and full programming access for AutoDome and AutoDome Easy II Series cameras. In addition, on-site receiver/drivers are available to provide operator control of pan, tilt, zoom, pre-positions, auxiliaries,

**2 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular**

auto-pan, and random scan functions when used with conventional pan/tilt devices. An integral local test function is also a standard feature.

The LTC 8900 Series include an impressive user-based priority system and a series of programmable lockout tables to limit operator access of remotely controlled devices. Operators can restrict control from lower priority operators either manually or automatically. When enabled to operate automatically, a built-in time-out period is user programmable.

**Bilinx Capability**

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion® AutoDome, and AutoDome Easy II CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

**Macro Capabilities**

The LTC 8900 system provides powerful macro capabilities. Macros can be activated using Allegiant Series system keyboards, timed event functions, and alarm activations.

**Alarm Capabilities**

The LTC 8540/00 alarm interface unit allows external contact closure or logic level input to automatically display cameras on a monitor or group of monitors. The supplied PC software includes the ability to combine multiple alarm operating modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, one can customize a 16-character alarm titles to designate the specific alarm condition.

**System Operation**

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 120 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

**Programming/Software Capabilities**

The LTC 8900 Series includes a black outlined 48-character on-screen display for time/date, camera number, camera ID (16 or 40 characters), and monitor (12 characters) or status information. A user selectable option provides the ability to display a third line of on-screen text. This third line can be configured to display up to 24 additional camera title characters (40 characters total) or a 12-character monitor title. The on-screen display is also user selectable to operate in "6-digit Camera ID" mode. When enabled, 2-digit "site numbers" are displayed in addition to the 4-digit camera number. The 2-digit site number feature

is especially useful when groups of cameras are located in separate buildings, floors, or other common areas.

Over 1,000 characters covering a multitude of languages, (including several hundred Chinese symbols) are available to help program camera ID and monitor titles. Using the supplied PC software, enhanced programming and switching features can be obtained. A user friendly spreadsheet format allows one to easily enter/change camera titles, operator names, timed events (128), system parameters, camera sequences, lockouts, and advanced alarm response programming. The software also provides the ability to enable an on-screen indicator for easy identification of controllable cameras. Another useful feature of the software is its ability to store or print (in real-time) programming information, system events, alarms, switching functions, sequence events, keyboard actions, and video loss information.

**Expansion Capabilities**

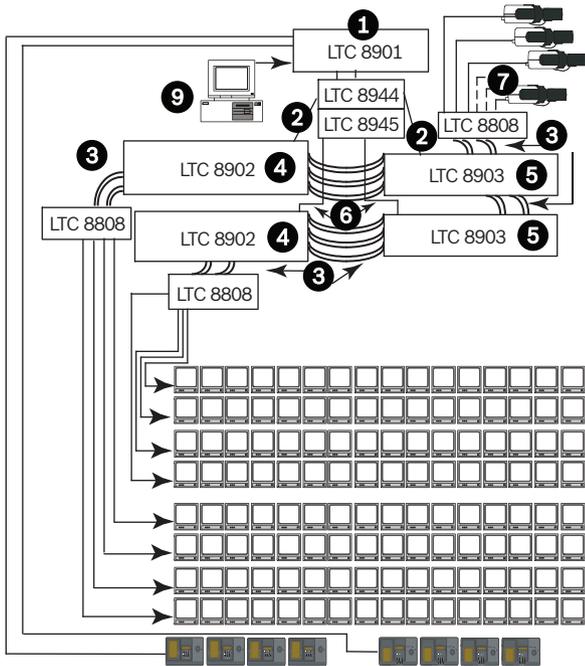
The LTC 8900 Series can serve as the Master or Slave Switcher in a SatelliteSwitch® configuration. This innovative SatelliteSwitch feature enables a single LTC 8900 system to communicate with remotely located Satellite systems. Any Allegiant system can serve as a remote Satellite Switcher. This powerful feature permits the design of large distributed type systems. The main control site can view and control local cameras as well as cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view and control only cameras associated with their local site. When used in this type of configuration, the main LTC 8900 system can access up to 256 Satellite sites.

**Certifications and Approvals**

<b>Electromagnetic Compatibility (EMC)</b>	Complies with FCC Part 15, ICES-003, and CE regulations
<b>Product Safety</b>	Complies with CE regulations, UL, CSA, EN, and IEC Standards

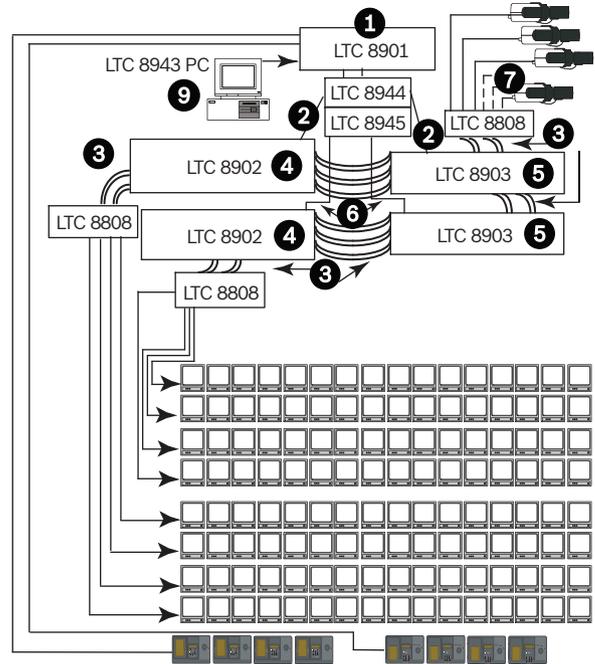
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Installation/Configuration Notes



Typical Diagram of LTC 8904 Series System Configuration (256 Cameras by 128 Monitors)

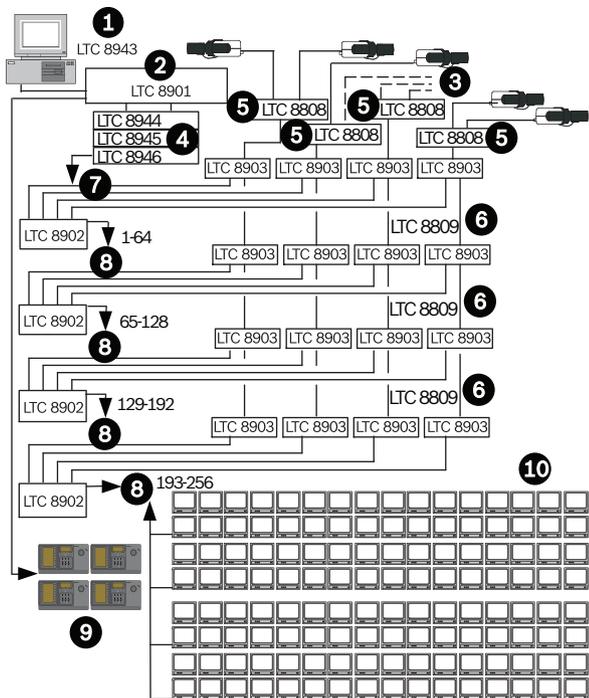
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 User PC



Typical Diagram of LTC 8901 Series Redundant System Configuration (256 Cameras by 128 Monitors)

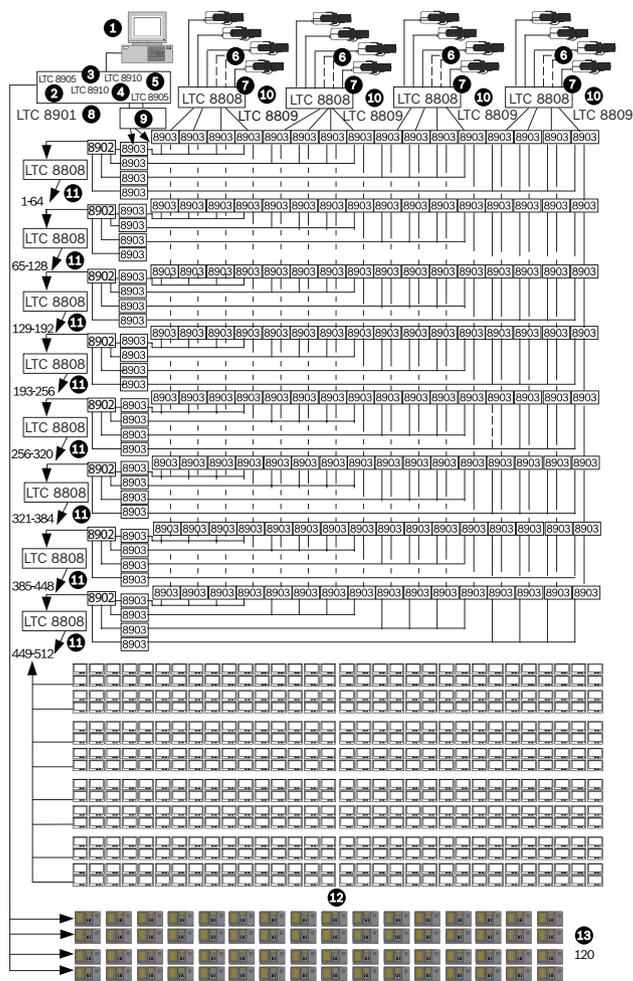
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 PC

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Typical Diagram of LTC 8901 Series Redundant System Configuration (1024 Cameras by 256 Monitors)

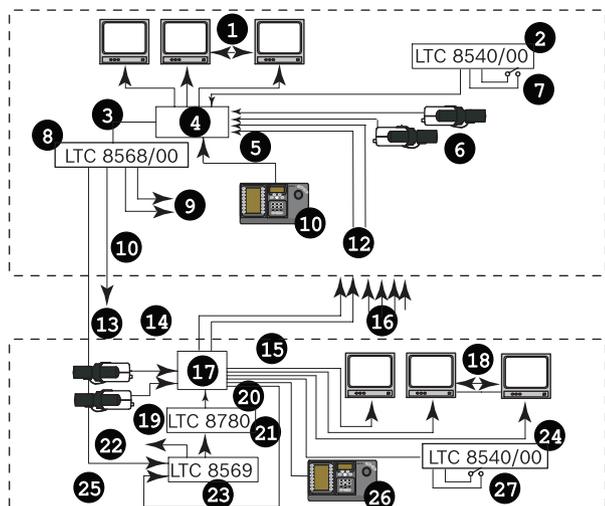
- 1 PC Running Configuration, Redundancy, and Data Mirroring Software
- 2 Main CPU Bay
- 3 Cameras
- 4 LAN Switchers
- 5 Video Panels
- 6 Coax Ribbon Cables
- 7 LAN Data Lines to all Bays
- 8 To Monitors
- 9 Up to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)
- 10 Up to 512 System Monitors
- 0



Typical Diagram of LTC 8901 Series Redundant System Configuration (4096 Cameras by 512 Monitors)

- 1 PC Running Configuration Software
- 2 Main Power Supply
- 3 Main CPU Module
- 4 Backup CPU Module
- 5 Backup Power Supply
- 6 Cameras
- 7 Video Panels
- 8 Main CPU Bay
- 9 LAN Switchers
- 10 Coax Ribbon Cables
- 11 To Monitors
- 12 Up to 512 System Monitors
- 13 UP to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)

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Allegiant Satellite Switching System

- 1 Monitor Outputs
- 2 Alarm Interface Unit
- 3 Pan/Tilt/Zoom and Satellite Control Data
- 4 Allegiant Main CPU Bay
- 5 Alarm Inputs May Activate Either Local or Satellite Video Main Control Center's Monitor
- 6 Local Camera Video
- 7 Inputs Used for both Local and Trunk Lines
- 8 Signal Distribution Unit
- 9 To any Local Pan/Tilt/Zoom Camera Sites
- 10 Up to 1.5 km (5000 ft) using 1 sq mm (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)
- 11 Allegiant Keyboard Controls any Local or Remote Camera on any Local Monitor (Video and Pan/Tilt/Zoom)
- 12 Multiple Video Trunk Lines from each Remote Satellite Location
- 13 One Line to Each Remote Satellite System Location
- 14 Pan/Tilt/Zoom and Satellite Control Data
- 15 Monitor Outputs used as Video Trunk Lines to Main Control Site
- 16 Video Trunk Lines from other Satellite Locations
- 17 Any Model Allegiant Main Bay
- 18 Local Monitor
- 19 Console Port Input
- 20 Satellite Data Line
- 21
- 22
- 23
- 24
- 25
- 26
- 27

- 2 Data Converter Unit
- 1
- 2 To any Local Pan/Tilt/Zoom Camera Sites
- 2
- 2 Code Merger Unit
- 3
- 2 Alarm Interface Unit
- 4
- 2 Local Pan/Tilt/Zoom Control Data Line
- 5
- 2 Alarm Inputs Activate only Local Video on Local Monitors
- 6
- 2 Allegiant Keyboard Controls any of the Local Cameras on any of the Local Monitors (Video and Pan/Tilt/Zoom)
- 7

Technical Specifications

LTC 8900 Series System Specifications

Capacities

Video Inputs	
Standard	4096
Satellite Configuration	6144
Video Outputs	
	512
Keyboards	
	120
Alarm Inputs	
	1024
Receiver/Drivers	
Standard	4096
Satellite Configuration	6144

Electrical

Input Voltage Level	0.5 Vp-p to 2 Vp-p (composite negative sync)		
Gain	Unity ± 2% (75 Ohm terminated)		
Pulse/Bar Ratios <sup>1</sup>	Min.	Nom.	Max.
	94%	98%	106%
2T Pulse K Factor <sup>1</sup>	Min.	Nom.	Max.
		0.2%	2.5%
Bar Amplitude (IRE) <sup>1</sup>	Min.	Nom.	Max.
	96	98	104
Sync Amplitude (% Bar) <sup>1</sup>	Min.	Nom.	Max.
	36%	39%	44%
Field Time Waveform Distortion <sup>1</sup>	2% maximum		
Line Time Waveform Distortion <sup>1</sup>	1% maximum		
Short Time Waveform Distortion <sup>1</sup>	2% maximum		

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Long Time Waveform Distortion <sup>1</sup>	0.8% maximum		
Video Bandwidth (-3 dB)	17 MHz		
Frequency Response	± 0.5 dB to 11 MHz		
Signal-to-Noise-Ratio <sup>1</sup>	70 dB at 3.58 MHz unified unweighted minimum		
Crosstalk (at 3.58 MHz)	Typical: -65 dB, Adjacent channel: -45 dB (typical)		
Hum	60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz		
Differential Gain <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6%	2%
Differential Phase <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6°	1.3°
Chrominance Luminance Gain	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	94%	100%	109%
Chrominance Luminance Delay <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	-33 ns	+3 ns	+33 ns
Luminance Nonlinearity <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.3%	4%
Switching	Crosspoint matrix		
DC Output	0 V		
Transient Protection (VIM Cards)	350 W Peak Pulse Power (tp = 8/20 µs)		

<sup>1</sup> Meets EIA/TIA - 250C Medium Haul Standard for 1024 cameras x 64 monitors.

**Environmental**

Temperature	
Operating	4°C to 50°C (40°F to 122°F)
Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0 to 95 % relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 m/s, ½ sine wave

**LTC 8904 CPU Equipment Bay**

The LTC 8904/60 and LTC 8904/50 include the equipment rack, LTC 8910/01 microprocessor module, LTC 8905/90 power supply, and LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>2</sup>
LTC 8904/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8904/50	220-240 VAC, 50/60 Hz	198 to 264	30 W

<sup>2</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Port	9-pin D-type RS-232 port for an external PC or computing device (default = 115,200 baud)
Console	9-pin D-type RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	9-pin D-type RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Bi-Phase	9-pin D-type TTL level, high-speed control data output (BiPhase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two 9-pin D-type RS-485 ports for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	RJ-45 high-speed LAN port for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8946 Series LAN switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	7.2 kg (15.85 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Module (LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (One-LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Front Panel Indicators	Power, CPU activity

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**LTC 8901 Series CPU Equipment Bay**

The LTC 8901/60 and LTC 8901/50 include the equipment rack, dual LTC 8910/01 microprocessor modules, dual LTC 8905/90 power supplies, and one LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>3</sup>
LTC 8901/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8901/50	220–240 VAC, 50/60 Hz	198 to 264	30 W

<sup>3</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Ports	Two (2), RS-232 ports for an LTC 8943 PC controller interface (default = 115,200 baud)
Console	RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Switch Ctrl	Digital interface port for the LTC 8943 PC controller
Bi-Phase	TTL level, hi-speed control data output (Bi-Phase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two (2), RS-485 port for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	Two RJ-45 high-speed LAN ports for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8944 Series and LTC 8945 Series LAN Switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	8 kg (17.6 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Modules (Two–LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supplies (Two–LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
--------------------	-------------------------------

**Front Panel Indicators**

- LTC 8901**  
 Primary power  
 Primary fault  
 Back-up power  
 Back-up fault  
 Primary CPU in-use  
 Controller activity  
 Back-up CPU in-use  
 Auto-select mode  
 Primary CPU activity  
 Fault buzzer  
 Back-up CPU activity  
**LTC 8904**  
 Power  
 CPU Activity

**Rear Panel Indicators**

- Relay outputs<sup>4</sup>  
 Primary CPU fault  
 Back-up power supply failure  
 Back-up CPU fault  
 Any failure  
 Primary power supply failure

<sup>4</sup> Relay Contacts: 24 VAC, 40 V peak, 1 A.

**LTC 8902 Series Monitor Output Bays**

The LTC 8902/60 and LTC 8902/50 include the equipment rack, LTC 8916/01 data receiver module, and LTC 8906 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>5</sup>
LTC 8902/60	120 VAC, 50/60 Hz	100 to 140	160 W
LTC 8902/50	220–240 VAC, 50/60 Hz	198 to 264	160 W

<sup>5</sup> Power at rated voltage fully loaded.

**Connectors**

Video Outputs	Four (4), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Video Bus Connections	Sixteen (16), 34-pin ribbon connectors interconnect with LTC 8903 Series Camera Input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use

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EXT Sync	BNC input used to synchronize the unit to an external sync signal. Accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V Sync	BNC connector provides an output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to the LTC 8901 Main CPU bay via system LAN Switches. (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8916/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8906/60 or LTC 8906/50)**

Dimensions (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8903 Series Camera Input Bays**

The LTC 8903/60 and LTC 8903/50 include the equipment rack, LTC 8918/01 data receiver module, and LTC 8805 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>6</sup>
LTC 8903/60	120 VAC, 50/60 Hz	100 to 140	85 W
LTC 8903/50	220–240 VAC, 50/60 Hz	198 to 264	85 W

<sup>6</sup> Power at rated voltage fully loaded.

**Connectors**

Video Inputs	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Looping Video Input Connections	Sixteen (16), 34-pin ribbon connectors used with LTC 8809/00 ribbon cables (supplied as required to loop to additional LTC 8903 Series bays)

Video Bus Connections	Four (4), 34-pin ribbon connectors interconnect with LTC 8903 Series camera input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use
EXT SYNC	BNC input used to synchronize unit to external sync signal; accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V SYNC	BNC connector provides output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to LTC 8901 main CPU bay via system LAN Switches (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8918/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8805/60 or LTC 8805/50)**

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8921/00 Video Input Module**

Use up to sixteen per LTC 8903 Series camera input bays.

Camera Inputs	32
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8934/00 Video Output Module**

Use up to eight per LTC 8902 Series monitor output bays.

Monitor Outputs	8
-----------------	---

**9 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8941/91 System Controller**

**(Redundant System Configurations Only)**

Includes LTC 8943/94 PC, LTC 8944/93 Primary LAN Switch and LTC 8945/93 Backup LAN Switch

LTC 8943/94 PC	Rack-mount industrial-grade Pentium PC, 512 MB RAM (minimum), 8 GB solid state hard drive (minimum), CD-/DVD burner, floppy drive, keyboard, mouse, keyboard/mouse rack-mount shelf, and Windows XP Professional; 120/230 VAC, 50/60 Hz
LTC 8059/00	Allegiant Master Control software (installed on PC)
Monitor (UML-191-90)	48.3 cm (19 in.) LCD panel 120/230 VAC, 50/60 Hz
Monitor Rack (UMM-LCDUB-RM)	Racked Height: 37.4 cm (14.7 in.) Racked Width: 48.3 cm (19.0 in.)
LTC 8944/93 Primary LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with primary IP Address; 120/220 VAC, 50/60 Hz
LTC 8945/93 Back-Up LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with back-up IP Address; 120/220 VAC, 50/60 Hz

**LTC 8946/93 Expansion LAN Switch**

24-port 10/100BaseT Ethernet Switch, no SNMP module; 120/220 VAC, 50/60 Hz

**LTC 8808/00 Video Interconnect Panel**

The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16-channel ribbon cable connectors. The two (2) coaxial ribbon cables (LTC 8809/00), designed especially for use with video signals, and are then used to interconnect the video between the panel and the LTC 8900 system. Use of the LTC 8808/00 assemblies are required for all external video input and output connections. In addition to being used for video inputs and monitor outputs, the LTC 8808/00 assembly is also used to provide looping capability. One (1) LTC 8808/00 (includes panel and two ribbon cables) is required for each group of 32 system cameras or 32 monitors.

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)
<b>Weight</b>	
• Panel	0.54 kg (1.2 lb)
• Ribbon Cables	Two (2), 0.3 kg (0.7 lb)
Construction	Metal
Finish	Charcoal

**Allegiant Accessories**

The LTC 8900 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, code merger units, video ribbon cables, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

**Ordering Information**

**LTC 8901/50 Allegiant Dual CPU Bay**

Dual CPU bay, 230 VAC  
Order number **LTC 8901/50**

**LTC 8901/60 Allegiant Dual CPU Bay**

Dual CPU bay, 120 VAC  
Order number **LTC 8901/60**

**LTC 8902/50 Allegiant Monitor Bay**

Monitor bay, 230 VAC  
Order number **LTC 8902/50**

**LTC 8902/60 Allegiant Monitor Bay**

Monitor bay, 120 VAC  
Order number **LTC 8902/60**

**LTC 8903/50 Allegiant Camera Bay**

Camera bay, 230 VAC  
Order number **LTC 8903/50**

**LTC 8903/60 Allegiant Camera Bay**

Camera bay, 120 VAC  
Order number **LTC 8903/60**

**LTC 8904/50 Allegiant CPU Bay**

CPU bay, 230 VAC  
Order number **LTC 8904/50**

**LTC 8904/60 Allegiant CPU Bay**

CPU bay, 120 VAC  
Order number **LTC 8904/60**

**LTC 8905/90 Power Supply**

for LTC 8901 and LTC 8904 Series, 120/240 VAC  
Order number **LTC 8905/90**

**LTC 8906/50 Power Supply**

for LTC 8902/50, 230 VAC  
Order number **LTC 8906/50**

**LTC 8906/60 Power Supply**

for LTC 8902/60, 120 VAC  
Order number **LTC 8906/60**

**LTC 8910/01 CPU Module**

CPU module for LTC 8901 and LTC 8904 Series  
Order number **LTC 8910/01**

**LTC 8916/01 Data Receiving Module**

for LTC 8902 Series  
Order number **LTC 8916/01**

**10 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular****LTC 8917/00 Relay Module**

for LTC 8901 Series

Order number **LTC 8917/00****LTC 8918/01 Data Receiving Module**

for LTC 8903 series

Order number **LTC 8918/01****LTC 8921/00 Video Input Module**

for LTC 8900 Series

Order number **LTC 8921/00****LTC 8934/00 Video Output Module**

for LTC 8900 Series

Order number **LTC 8934/00****LTC 8934/00-75 VOM**

LTC 8900 VOM with Korean characters

Order number **LTC 8934/00-75****LTC 8941/91 PC/Monitor/LAN/Software Package**

for LTC 8901 Series

Order number **LTC 8941/91****LTC 8944/92 Programmed 12-port Primary LAN**Order number **LTC 8944/92****LTC 8945/92 Programmed 12-port Backup LAN**Order number **LTC 8945/92****LTC 8946/92 Basic 12-port Expansion LAN**Order number **LTC 8946/92****Accessories****LTC 8944/93 Programmed 24-port Primary LAN Switch**Order number **LTC 8944/93****LTC 8945/93 Programmed 24-port Backup LAN Switch**Order number **LTC 8945/93****LTC 8946/93 Basic 24-port Expansion LAN Switch**Order number **LTC 8946/93****Software Options****SFT-VASA Hybrid IP - Analog/Matrix Video over IP Integration Software**Order number **SFT-VASA****LTC 8850/00 GUI Allegiant Single User Software Package**Order number **LTC 8850/00****SFT-INTSRV Integration Server Software**

Allegiant integration software package

Order number **SFT-INTSRV****Represented by:****Americas:**

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
security.sales@us.bosch.com  
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Phone: + 31 40 2577 284  
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Fax: +86 21 22182398  
www.boschsecurity.com.cn

**America Latina:**

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CEP 13065-900  
Campinas, Sao Paulo, Brazil  
Phone: +55 19 2103 2860  
Fax: +55 19 2103 2862  
al.securitysystems@bosch.com  
www.boschsecurity.com

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parts and Products:Parts and Products:Parts and Products:Parts and Products:Parts and Products:Video Quad (Color)

**Attachments**

LTC\_2380\_2382\_Data\_sheet\_enUS\_2347616139.pdf

Video | LTC 2380/90, LTC 2382/90 Digital Video Quad Processor

# LTC 2380/90, LTC 2382/90 Digital Video Quad Processor

www.boschsecurity.com


**BOSCH**

Invented for life



- ▶ Auto detects Color and B/W cameras and PAL/NTSC signals
- ▶ Real-time display and record update rate
- ▶ Sequencing Full Screen or Quad display
- ▶ Video loss detection
- ▶ RS-232 control

The LTC 238x/90 Digital Video Processors use the latest integrated technology to produce high quality, real time video in both Full and Quad Screen Modes. The video processor auto detects the applicable video standard, PAL or NTSC, and configures itself accordingly. In addition the unit will detect color or B/W cameras and configures itself accordingly. The display is updated at the field rate of 60 fields per second for EIA/NTSC or 50 fields per second for CCIR/PAL, providing real time video. These video processors require no external synchronization and accept video inputs with 2:1 interlaced source.

## System Overview

### LTC 2380/90

The LTC 2380/90 Digital Video Processor is designed for easy installation in applications where four cameras need to be viewed on a single monitor. It offers a quad display with no user controls required - truly plug and play.

### LTC 2382/90

The LTC 2382/90 is a full-featured Digital Video Processor that includes a monitor output plus a second output (REC Out) for video recording devices. The Monitor output can be set for the following display options:

- Quad display (all four cameras).
- Full Screen display (any camera).
- Sequencing with programmable dwell time.

The LTC 2382/90 allows recording in Quad mode or Full-screen mode of individual cameras. Quad recorded images can be viewed in full screen using the built-in zoom playback.

These units allow user-friendly on-screen programming for quick-and-easy setup, including setting 8-character camera titles.

The LTC 2382/90 allows for remote control and external time/date synchronization via an RS-232 connection. Several units may be daisy chained together so that all can be controlled from one PC. Other features include a flashing Alarm indicator, programmable audible alarm, a video loss output relay and an alarm output relay for control of a VCR or a DVR. Also available are front panel alarm clear, user programmable alarm dwell time and a video loss indicator.

2 | LTC 2380/90, LTC 2382/90 Digital Video Quad Processor

**Certifications and Approvals**

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

Region	Certification
Europe	CE

**Technical Specifications**

**Input Mains Voltage to External Power Supply (all models)**

Voltage	90 to 265 VAC
Frequency	47 to 63 Hz
Nominal Power	10 W

**DC Voltage (into unit)**

Voltage	5 VDC ±5%, 10 W
---------	-----------------

**Video Format**

**Resolution**

All models auto detect the applicable video standard, PAL or NTSC, and configures itself accordingly.

• PAL	720 x 625
• NTSC	720 x 525

**Controls and Indicators**

**Front Panel–LTC 2382/90**

Power Indicator is illuminated when Power is applied to the unit.

• PLAY	Button with LED indicator; selects playback video display on monitor
• MENU	Button; selects on-screen menu
• SEQ /ALM	Button with LED indicator; selects sequencing and alarm clear functions
• Camera Select (Arrow)	Four (4) push buttons with LED indicators; selects a video input (camera 1, 2, 3 or 4) for full screen display. Used as menu navigation keys during programming.
• QUAD/ RETURN	Button with LED indicator; selects quad display on the monitor. Used to enter or set parameters during programming.

**Connectors–LTC 2382/90**

• Video Input	Four (4) BNC, with auto switched 75 Ω termination <sup>1</sup>
• Video Output	Four (4) BNC, loop through <sup>1</sup>
• Monitor Output	One (1) BNC, 75 Ω output impedance

• PLAY IN	One (1) BNC, 75 Ω terminated
• REC OUT	One (1) BNC, 75 Ω output impedance
• ALM/RS232	15-way D-type, breakout terminal block
• Power Input	DC power jack
• Chassis Earth	Phillips screw

**Connectors–LTC 2380/90**

• Video Input	Four (4) BNC, with auto switched 75 Ω termination <sup>1</sup>
• Video Output	Four (4) BNC, loop through <sup>1</sup>
• Monitor Output	One (1) BNC, 75 Ω output impedance
• Power Output	DC power jack
• Chassis Earth	Phillips screw

1. 75 Ω termination is normally connected to the video input. If a loop through is connected, however, this 75 Ω termination is switched out and termination must be supplied by the downstream equipment

**Electrical Ratings–Rear Panels**

Video Input Voltage	2 Vp-p max. 0.5 Vp-p min.
Relay Outputs	30 V max. at 1 A
Alarm Inputs	–0.3 V to 30 V max. internal 22 K pull-up
Alarm I/P Threshold	1.5 VDC
Alarm I/P Voltage (Low)	0.7 VDC max.
RS232	Fully compliant EIA-232

**Mechanical**

Rack Mount Kit	Hardware included to mount either a single unit or two connected units in a 19 in. rack
Construction	Steel chassis
Finish	Charcoal
Dimensions (W x D x H)	220 x 296 x 42 mm (8.66 x 11.65 x 1.65 in.)
<b>Weight</b>	
• LTC 2380/90	1.5 Kg (3.31 lbs)
• LTC 2382/90	1.8 Kg (3.97 lbs)

**Environmental**

Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	–35°C to 65°C (–31°F to 149°F)
Humidity	< 95%

**3 | LTC 2380/90, LTC 2382/90 Digital Video Quad Processor****Ordering Information****Digital Video Quad Processor**

Four (4) BNC video inputs, four (4) BNC video outputs, PAL/NTSC, 90-265 VAC, 47-63 Hz, 1.5 Kg (3.31 lbs)

Order number **LTC 2380/90**

**Programmable Digital Video Quad Processor**

Four (4) BNC video inputs, four (4) BNC video outputs, video recording and playback, PAL/NTSC, 90-265 VAC, 47-63 Hz, 1.81 Kg (3.97 lbs)

Order number **LTC 2382/90**

**Represented by:****Americas:**

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
security.sales@us.bosch.com  
www.boschsecurity.us

**Europe, Middle East, Africa:**

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P.O. Box 80002  
5617 BA Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

**Asia-Pacific:**

Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
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201 Building, No. 333 Fuquan Road  
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Robert Bosch Ltda Security Systems Division  
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Fax: +55 19 2103 2862  
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www.boschsecurity.com

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Computer

**Attachments**

DELL OPTIPLEX 3010 DESKTOP WIN 7 SPECIFICATIONS.pdf

## DELL OPTIPLEX 3010 DESKTOP WIN 7 SPECIFICATIONS

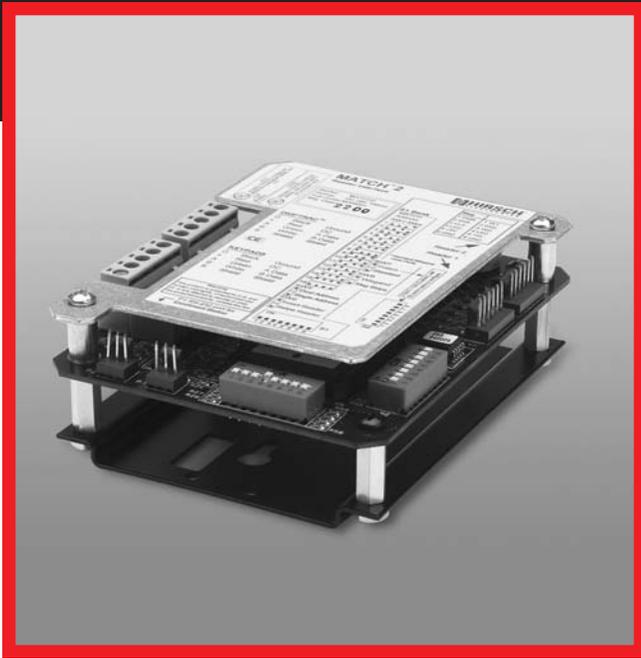
- 4GB, NON-ECC, 1600MHZ DDR3, 1DIMM
- 16X DVD+/-RW SATA, Data Only
- 500GB 3.5 3.0Gb/s SATA with 16MB DataBurst Cache™
- Intel® Integrated Graphics VGA/HDMI w/o Adapter
- Resource DVD - contains Diagnostics and Drivers for Vista systems
- Dell OptiPlex 3010 DT, Ship Fast (FCG4)
- Internal Dell Business Audio Speaker
- No ESTAR Settings
- Chassis Intrusion Switch Option
- Heat Sink, Performance, Desktop
- OptiPlex 3010 Desktop w/ Standard PSU
- No Monitor
- 1 Watt ready low-power mode
- Documentation English and French
- Shipping Material for System, Desktop
- No Resource DVD
- No Tech Sheet
- Prebuilt System
- PCmover Home

3 Year Basic Hardware Service with 3 Year NBD Onsite Service after Remote Diagnosis





Product Data Sheet



# MATCH™

## Intelligent Reader Interface

*Hirsch's MATCH Interface makes conventional access control readers intelligent and provides a high security solution for access control. It is used with a Hirsch DIGI\*TRAC™ controller.*

### Features

- Microprocessor Based
- Mathematical Digitizing Algorithm
  - High Security Transmission
  - Eliminates Facility Codes
- Supports “Off the Shelf” Cards
  - No Waiting on Card Orders
- Mix Reader Technologies on One System
- Data Formats
  - ABA Magnetic Stripe
  - Wiegand (26- to 55-Bit Format)
  - Proximity
  - Bar Code
  - Touch Memory
  - Barium Ferrite
  - RF (Radio Frequency)
  - Biometric
  - Wiegand No Parity
  - HID Corporate 1000 Format
  - Pass Through
- Digital Transmission
  - Long Wiring Runs
  - Multi-drop Connections
- Dual Technology Options
- Entry and Exit Reader on One MATCH Interface Unit
- Many Custom Formats Now Supported

### Description

The MATCH Intelligent Reader Interface is installed at or near a conventional access control reader. It converts the reader's analog or pulsed signals to a high security digital code. MATCH's on-board 5VDC power source powers most readers.

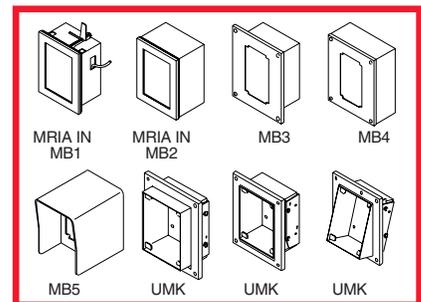
Used with a conventional reader, MATCH converts the card's raw code into the security code used by a Hirsch DIGI\*TRAC controller. There is no need to decipher the raw code. Existing card access systems can usually be upgraded without replacing the current cards.

### High Security Communication Path

The MATCH interface has microprocessor intelligence. MATCH uses a complex mathematical algorithm to digitize the code for transmission to a DIGI\*TRAC controller. Digital transmission permits longer wiring runs between a MATCH-based reader and its controller than are normally available with conventional access technologies.

### Multiple Reader Support

A single MATCH Interface will support both an entrance and an exit reader for the same door. MATCH interfaces are used on the same communication path with the Hirsch ScramblePad® and ScrambleProx®.

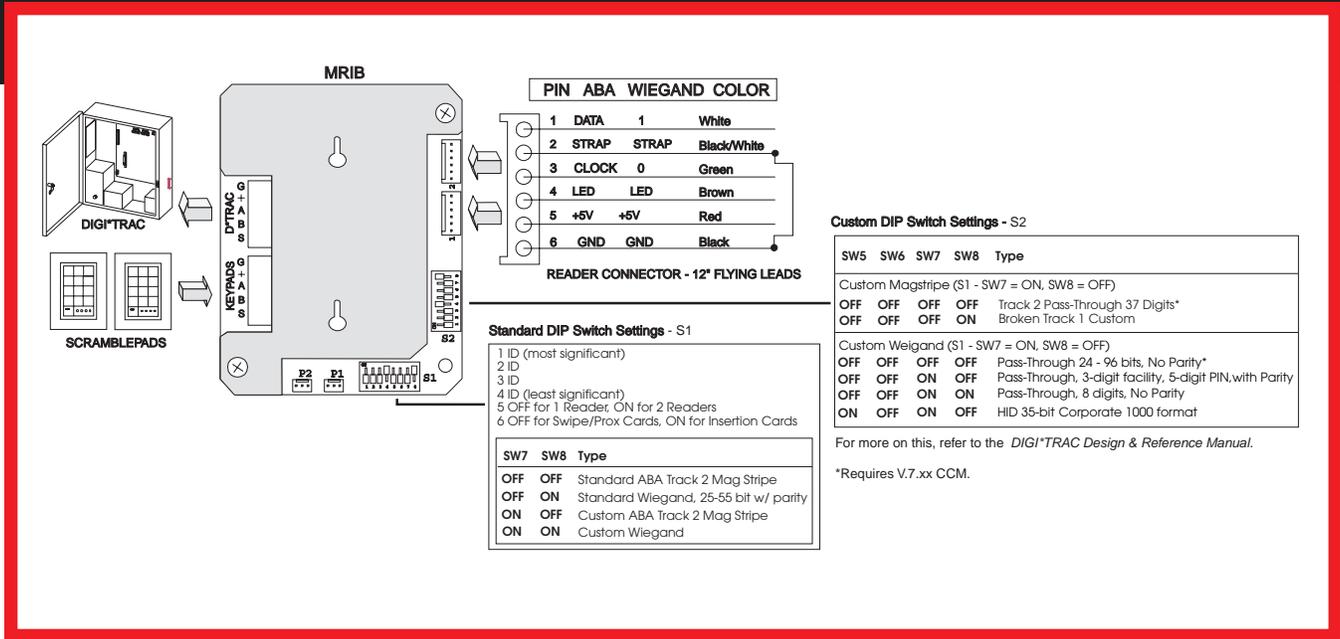


### Mounting Boxes

#### Accessories For MRIA

- |        |                                       |
|--------|---------------------------------------|
| MB1    | Flush Mounting Box                    |
| MB2    | Surface Mounting Box                  |
| MB3    | Heavy Duty Flush Mounting Box         |
| MB4    | Heavy Duty Surface Mounting Box       |
| MB/FFP | Flat Faceplate                        |
| MB/SWS | Shallow Wall, Semi-flush Spacer Ring  |
| UMK    | Universal Mounting Kit (requires MB2) |

# Systems With Integrity



Typical MATCH-to-Reader Wiring.

## Specifications

Note: The MATCH is designed to operate with a Hirsch DIGI\*TRAC Controller.

### Communications

- Wiring From Controller: 2 pair, stranded, twisted, overall shield. Refer to controller specifications for distance
- Supervision: Digital from controller
- Wiring To Reader: Refer to reader specifications

### Electrical

- Operating Power
  - 70 mA @24VDC, with externally powered readers
  - 200 mA@24VDC, with 2 readers powered by MATCH
- Reader Power: 2 terminals
  - 250 mA @ 5VDC each

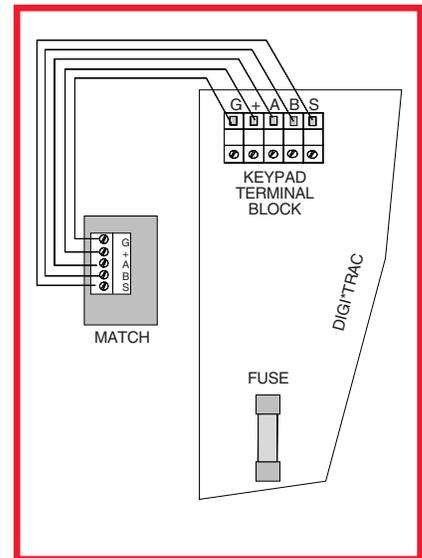
- RS232 Port (P1) For Enrollment Station

### Physical

- Physical Tamper Alarm (MRIA)
- Dimensions:
  - MRIA: 5.75"H x 4.5"W x 2"D (14.6 cm x 11.4 cm x 5.1 cm)
  - MRIB: 4.5"H x 3.5"W x 1.75"D (11.4 cm x 8.9 cm x 4.4 cm)
- Shipping Weight: 2 lb. (0.9kg)
- Operating Temperature Range: 32° to 140°F (0° to 60°C)
- Relative Humidity: 0 to 90%, non-condensing

### Listings & Approvals

- UL-ALVY (294), Access Control Systems Units
- CUL-UEHX7, Signal Appliances
- CE



Typical Controller-to-MATCH Wiring Diagram.

## Ordering Information

Model #	Name	Description and Comments
MRIA	MATCH Reader Interface Assembly	Includes MRIB, mounting base and bezel, physical tamper switch and blank faceplate. 2 MATCH connectors with 6" pigtailed. Installs in Hirsch mounting boxes. Use MB1, MB2 or MB5. UL Listed. CE.
MRIB	MATCH Reader Interface Board	Accepts up to 2 readers & 2 ScramblePads for dual technology entry & exit control of 1 door. Use with CCM 6.4 (or higher) & CR readers (see DIGI*TRAC Design and Installation Guide for compatible readers). 2 MATCH connectors with 6" pigtailed. Provides 5VDC @ 250mA reader power. Mounting plate. UL Listed. CE.



Specifications are subject to change without notice

### Global Headquarters

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www.HirschElectronics.com

PDS002-203



# Software Enrollment Station – Universal Datasheet

## Model#: SMES-U

Card Enrollment Station (without card reader) to enroll cards into a PC with Velocity software. Use with compatible reader heads. Includes MATCH2, ES2 Enrollment Stand, Cables and Plug-In Power Supply.



**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Model 8 DIGI \*TRAC Access Control Unit

**Attachments**

Hirsch M8N.pdf



## Product Data Sheet



# DIGI\*TRAC™ Model 8 Controller

*Hirsch DIGI\*TRAC controllers are “standalone” access control systems that support:*

- ScramblePad® & ScrambleProx® secure keypads
- MATCH™ intelligent reader interfaces
- High security alarm monitoring
- Relay control outputs

*When connected locally, by a LAN, or by telephone lines to a Hirsch Host PC or server, DIGI\*TRAC controllers provide a high-integrity, enterprise-wide access control and security management solution.*

### Features

- Controls 8 Fully Supervised Doors
  - Both Entry & Exit
  - Keypads And/Or Readers
- Modular: Uses Expansion Boards
- Standalone or Networked
  - Microprocessor Based
  - High Security Supervised Alarm Inputs (2% Supervision)
  - Door Relay Outputs
  - General Purpose Relay Outputs
  - Dedicated Alarm Relay Outputs
  - Digital Keypad/Reader Channel
- Digital Transmission
  - Long Wiring Runs
  - Multi-drop Connections
  - LAN Interface Options
  - Modem Options
- Encryption Algorithm
  - High Security Transmission
- Local or Remote Programming
  - ScramblePad, ScrambleProx or PC

- Downloadable Firmware
  - Flash Memory
- Printer Port
- Multiple Reader Technologies
- Resident Application Library
- UL Listed: 294, 1076, Grade AA

### Description

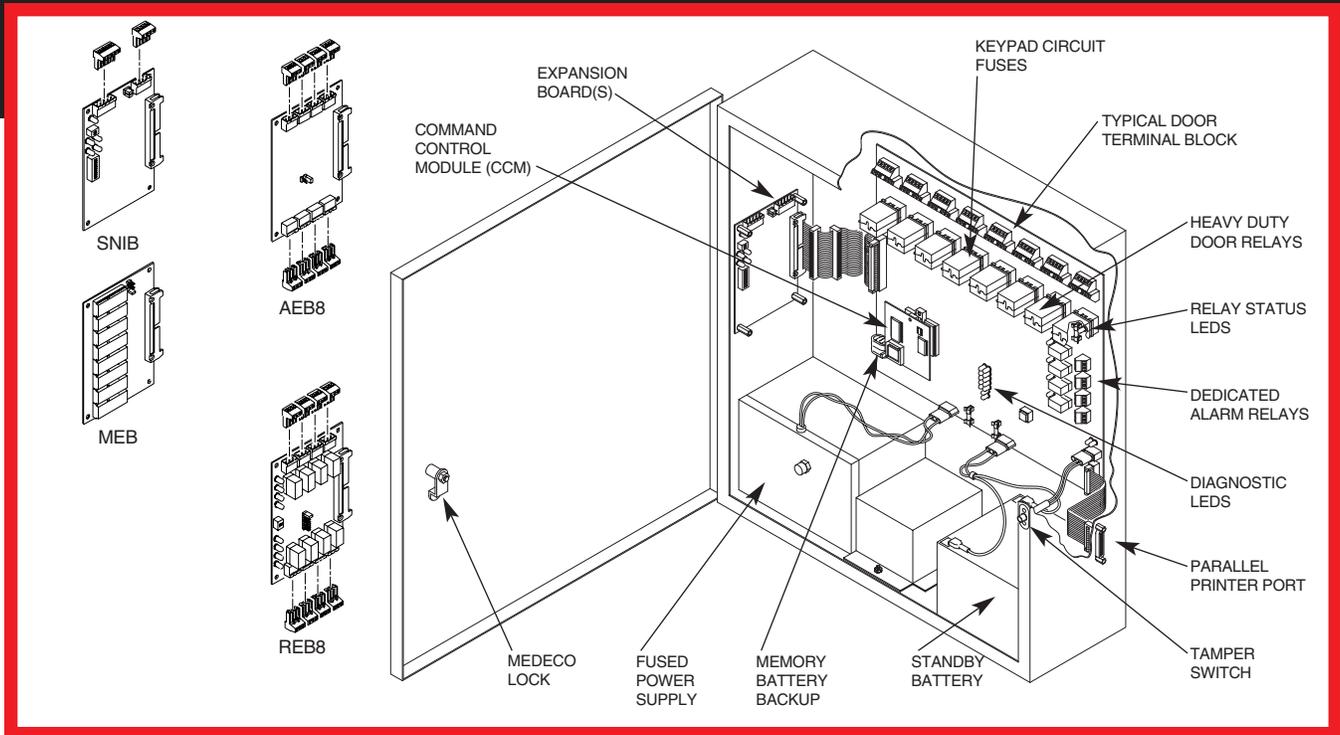
All DIGI\*TRAC controllers have the same firmware functionality. A range of models and expansion options provides a variety of access control, high security alarm monitoring, relay control outputs, and programmable logic configurations to fit most applications. Each unit can be a complete standalone system or a distributed controller in a larger, multi-site enterprise system. This modular design and “scalable” architecture allows a system to start small and grow large.

### Access Control System

As an access control system, the DIGI\*TRAC controller includes extensive local firmware for control sequences as basic as “who goes where when” to sophisticated functions like 2-person rule, occupancy counting, individual user tagging, door interlocking, and anti-passback.

Access may be restricted based on: Time of Day, Day of Week, and Door. Access may be granted when the user presents the correct code, card, or both. The user may be granted “temporary” access based on: Use Count Limits, Temporary Day Limits, and Absentee Rule Limits, with Auto-Disable or Auto-Delete on expiration of Temporary Users.

Additional functions include: Unlock/Relock, Alarm Mask/Unmask, and Lock Down/Lock Down Release.



The associated door may be monitored for: Door Forced Open and Door Open Too Long, while providing Auto Relock control.

Readers supported include ScramblePad, ScrambleProx and, via the MATCH intelligent reader interface, these technologies: Magnetic Stripe, Proximity, Wiegand, Bar Code, Smart Card, RF, IR, and Biometric. Technologies may be combined on the same controller or the same door in any combination.

**High Security Reader Channel**

The DIGI\*TRAC controller supports electrically isolated terminal blocks that provide communications and power to the ScramblePad, ScrambleProx and MATCH interfaces. The communication path allows multi-drop connections for entrance and exit keypads, and dual technology applications.

User codes are digitized for transmission between a Hirsch ScramblePad, ScrambleProx or MATCH and the DIGI\*TRAC controller. Digital transmission allows longer wiring runs than are normally available with conventional access control reader technologies.

**High Security Alarm Monitoring**

Hirsch uses very stable digitally processed analog inputs with 2% line supervision for high security alarm monitoring. A line supervision module (DTLM, MELM, or SBMS) is located at the door contact, alarm sensor, request to exit (RQE), or similar device to establish this supervision.

In lieu of “shunting,” which turns off supervision, Hirsch uses “alarm masking” for full-time supervision and reporting of line status — even during hours of authorized access. Conditions reported include: Alarm, Secure, RQE, Mask, Tamper Alarm, Tamper Secure, Short, Open, Noisy and Input-Out-of-Spec.

**Relay Control System**

Relay outputs on DIGI\*TRAC controllers can be used for: electric door locks and strikes, arming/disarming security systems, alarm annunciation, elevator floor control, HVAC control, lighting control, storage locker control, and many other equipment control applications. These relays may be activated by codes (via ScramblePad), cards (via MATCH and reader), time zones, alarms, or logic sequences linked to other relays.

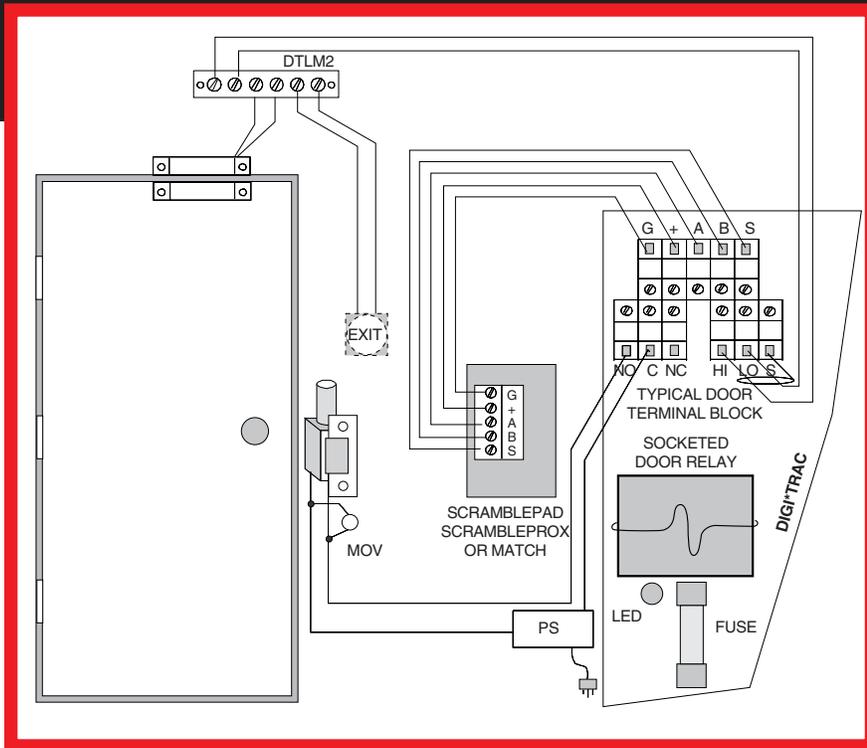
When used with a ScramblePad, DIGI\*TRAC controllers are ideal for after-hours tenant override systems. A history of who issued the override command is available for tenant billing or audit trails. The same ScramblePad used for access control can be used for tenant override and remote operator command functions.

**Programmer’s Terminal**

DIGI\*TRAC controllers can be programmed by either a ScramblePad or a PC using Hirsch Host software. The PC can be local or connected by LAN or modem. A ScramblePad used for access control can also be used as a programmer’s terminal. Programming functions supported include: add & delete user access codes, assign unlock/relock codes, assign alarm codes, and assign elevator control codes.

**SCRAMBLE\*NET™**

DIGI\*TRAC controllers communicate with a Hirsch Host PC using SCRAMBLE\*NET protocol which uses an encryption algorithm for high security. The SCRAMBLE\*NET command/packet structure is ideal for LAN and hardwired paths, including RS-485 multi-drop and RS-232 via direct connect or dial-up modem.



Typical Controller-to-Door Wiring Diagram

**Reliability By Design**

DIGI\*TRAC controllers are designed for “high availability” as complete systems solutions for global markets. Standby batteries for both memory and system operation are standard. The controller ships with an internal international power supply. All door relays are socketed. All Keypad/Reader terminals and power circuits are fused. Each unit is configured in a heavy duty, NEMA style enclosure, with a high security lock and tamper alarm.

**Specifications**

**Communications**

- Serial Interface Ports:
  - SCRAMBLE\*NET: Requires SNIB. Encrypted message structure.
  - RS-485 multi-drop or RS-232 protocol
  - Optically isolated serial port
  - Baud Rate: 9600 or 19,200
  - RS-485: 4000 ft. (1220m) with 22 gauge. 2 pair, stranded, twisted, overall shield
  - RS232: 50 ft (15m) @9600 baud
- Parallel Printer Port: Standard
- Keypad/Reader Port: 16 device addresses
  - Address 1-8 for door relay 1-8 entry.
  - Address 9-16 for door relay 1-8 exit. Any address for command and programming

- Wiring: 750 ft (160m) with 22 gauge, 1800 ft (550m) with 18 gauge. 2 pair, stranded, twisted, overall shield

**Firmware**

- Command & Control Module (CCM):
  - Removable & Upgradable
  - Time Zones: 150
  - Access Zones: 128
  - Control Zones: 256
  - Holidays: Four 366 Day x 2 Years
  - Daylight Savings Time Adjustment
- Dial-Up to Remote Host:
  - Phone Numbers: 4, with roll over
  - User selectable retry attempts
  - Call-back mode for security
  - Initiation by alarm, buffer % full, and/or time

**Memory**

- Buffers: 1500 events, 1500 alarms standard
  - 20,000 events, 2,000 alarms with MEB/BE
  - 20,000 events, 2,000 alarms with MEB/CB (reduces users by 20%)
  - Oldest discarded first, if full
- Users: 4000 standard
  - 8,000 with MEB/CE16
  - 20,000 with MEB/CE32
  - 68,000 with MEB/CB64
  - 132,000 with MEB/CB128

- Battery Backup: 30 day for code, setups, clock and buffer

**Electrical**

- Keypad/Reader Power: 8 terminals
  - 1.0 Amp @24VDC each, fused
  - 2.90 Amp @24VDC, total
  - Powers ScramblePad, ScrambleProx and MATCH
- Primary and Standby Power:
  - 90-130VAC, 50/60 Hz., fused
  - 180-260VAC, 50/60 Hz, fused
- Uninterruptible Power Supply
- Standby Batteries: 7 AH Included
- Door Relays: 10 Amp, Form C
- Control Relays: 2 Amp, Form C (requires REB8)
- Alarm Relays: 2 Amp, Form C
- LEDs:
  - Individual Relay Status
  - Battery (OK, Low, Fail)
  - AC (OK, Fail)
  - System (OK, Fail)
  - Keypad/MATCH (Poll, Response)
  - SCRAMBLE\*NET (Poll, Response)
  - Test Mode
  - Alarm Events in Buffer
  - Box Tamper Alarm

**Physical**

- Door Tamper Switch
- Medeco High Security Key Lock
- Enclosure: NEMA type, with conduit knockouts & removable door
- Dimensions: 22” H x 20” W x 6.25D” (55.9 cm x 51cm x 15.9cm)
- Expansion Boards: 6” H x 4.25”W x .75”D (15.2cm x 10.8cm x 1.9cm)
- Shipping Weight: 60lbs (27.2kg)
- Expansion Boards: 1 lb (.05kg)
- Operating Temperature Range: 32°F to 140° F (0° to 60° C)
- Relative Humidity: 0 to 90%, non-condensing

**Listings & Approvals**

- UL 294 Access Control Systems Units
- UL 1076 Proprietary Burglar Alarm Systems, Grade AA
- CE

# Systems With Integrity

## Ordering Information — Controllers

Model #	Description	Comments
M8N	DIGI*TRAC MODEL 8N - 8 Door - 115VAC	Controls 8 Supervised Doors. 4000 Users. Includes 8 door relays, 8 Alarm Inputs (requires Line Modules), enclosure, power supply, battery, tamper switch, Medeco lock and SNIB. Supports Expansion Boards. CE. UL Listed. 115VAC.

Note: Add "-230" to model number for 230 VAC.

## Ordering Information — Expansion Boards & Modem

Model #	Description	Comments
AEB8	Alarm Expansion Board - 8 Inputs	Adds 8 additional high security alarm inputs. SNAP, SAM and MOMENTUM support up to 2 boards in M2, M8, MSP or M64. Velocity supports up to 4 boards in M2, M8, MSP, M64 and up to 2 boards in M16. Each input requires appropriate Line Module. Features removable connectors. UL Listed. CE.
REB8	Relay Expansion Board - 8 Relays	Adds 8 additional 2 Amp Form C relays to an M2, M8, M16 or MSP-8R. May not be installed in an M64. A total of 5 (4 if networked) REB8 Boards may be installed in all other DIGI*TRAC controllers. Removable connectors & status LEDs. UL Listed. CE.
MEB/BE	Memory Expansion Board - Buffer Expansion	Expands standard buffer from 1500 events and 1500 alarms to 20,000 events and 2,000 alarms with CCM 7.X. Expands standard buffer from 37 events and 37 alarms (700 events and 700 alarms with CE boards) to 20,000 events and 2,000 alarms with CCM 6.6. Protected from data loss during power failures for up to 30 days by controller memory battery. UL Listed. CE.
MEB/CE16	Memory Expansion Board - CODE Expansion 4,000/16,000	Expands CODE Memory from 4,000 to 8,000 on Velocity and MOMENTUM with CCM 7.X. Not recognized by SNAP or SAM with CCM 7.X. Expands CODE Memory from 1,000 to 16,000 maximum with CCM6.X. Protected from data loss during power failures for up to 30 days by controller memory battery. UL Listed. CE.
MEB/CB64	Memory Expansion Board - CODE Expansion of 64,000 with Buffer Option	Expands CODE Memory by 64,000 (from 4,000 to 68,000) with CCM 7.X on Velocity and MOMENTUM. Not recognized by CCM 6.6 or earlier. A portion of the Code Memory may be allocated to alarm and event Buffers on Velocity only. Protected from data loss during power failures for up to 30 days by controller memory battery. CE. UL Listed.
MEB/CB128	Memory Expansion Board - CODE Expansion of 128,000 with Buffer Option	Expands CODE Memory by 128,000 (from 4000 to 132,000) with CCM 7.X on Velocity and MOMENTUM. Not recognized by CCM 6.6 or earlier. A portion of the Code Memory may be allocated to alarm and event Buffers on Velocity only. Protected from data loss during power failures for up to 30 days by controller memory battery. CE. UL Listed.
DM9600A-DL	DIGI*TRAC 9600 BAUD MODEM ASSEMBLY (Factory Set: Dial-Up Line)	A miniature 9600 Baud Modem Assembly that can be powered from & installed internally in the M1, M2, M8, M16 or MSP for remote site management via dial-up network. Includes cables, adaptor, & power supply harness. Do not use at Host PC or NET*MUX4 out port.

Note: The DIGI\*TRAC M8 controller can accommodate up to 5 expansion boards. Only one MEB/CE or MEB/CB is supported per controller. A maximum of 4 AEB8 expansion boards are supported per controller.



Specifications are subject to change without notice.

### Global Headquarters

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PDS005-203





## Product Data Sheet



# DIGI\*TRAC™ Model 16 Controller

*Hirsch DIGI\*TRAC controllers are “standalone” access control systems that support:*

- ScramblePad® & ScrambleProx® secure keypads
- MATCH™ intelligent reader interfaces
- High security alarm monitoring
- Relay control outputs

*When connected locally by a LAN, or by telephone lines to a Hirsch Host PC or server, DIGI\*TRAC controllers provide a high-integrity enterprise-wide access control and security management solution.*

### Features

- Monitors 16 Fully Supervised Alarm Inputs
- Modular: Uses Expansion Boards
- General Purpose Relay Outputs
  - Via Expansion Boards
- Standalone or Networked
  - Microprocessor Based
  - High Security Supervised Alarm Inputs (2% Supervision)
  - Dedicated Alarm Relay Output
  - Digital Keypad/Reader Channel
- Digital Transmission
  - Long Wiring Runs
  - Multi-drop Connections
  - LAN Interface Options
  - Modem Options
- Encryption Algorithm
  - High Security Transmission
- Local or Remote Programming
  - ScramblePad, ScrambleProx or PC
- Downloadable Firmware
  - Flash Memory
- Printer Port

- Multiple Reader Technologies
- Resident Application Library
- UL Listed: 294, 1076, Grade AA

### Description

All DIGI\*TRAC controllers have the same firmware functionality. A range of models and expansion options provides a variety of access control, high security alarm monitoring, relay control outputs, and programmable logic configurations to fit most applications. Each unit can be a complete standalone system or a distributed controller in a larger, multi-site enterprise system. This modular design and “scalable” architecture allows a system to start small and grow large.

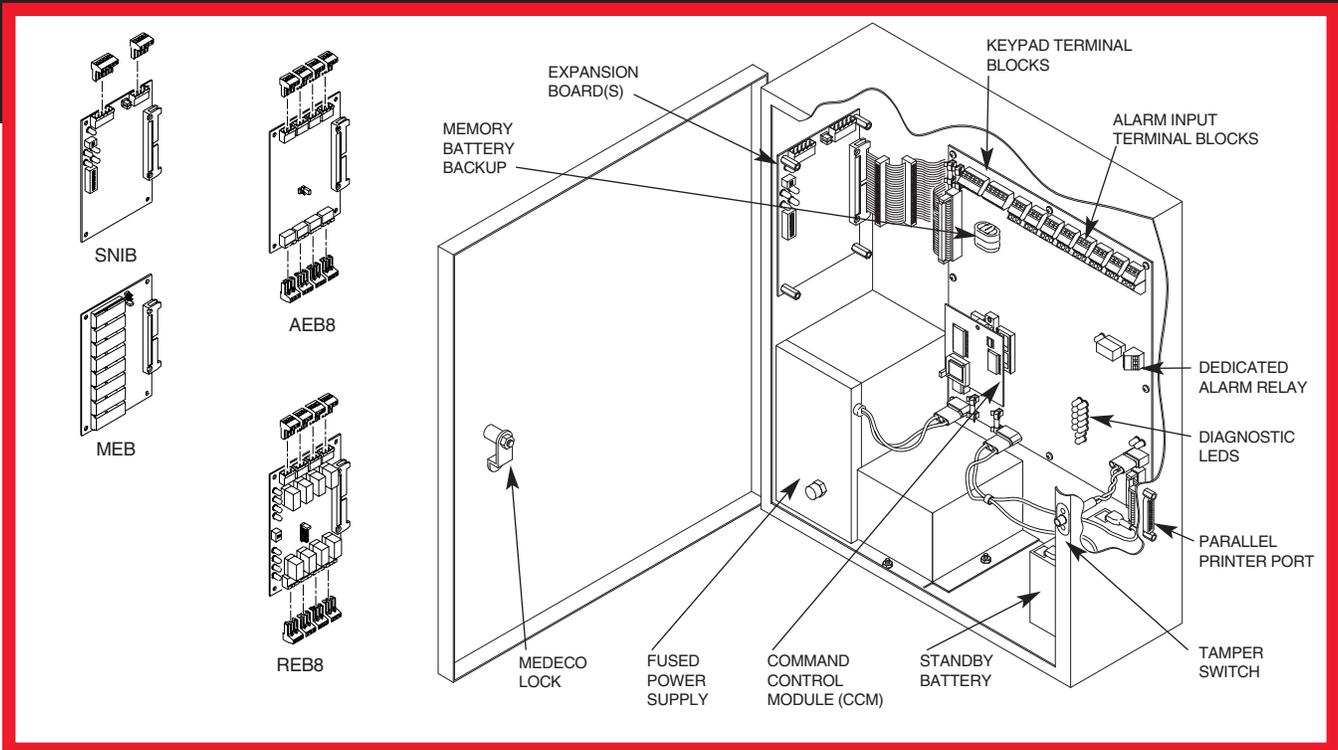
Readers may be used to initiate control actions such as mask alarm inputs, activate a group of equipment control relays, or energize specific elevator call buttons. Readers sup-

ported include ScramblePad, ScrambleProx and, via the MATCH intelligent reader interface, these technologies: Magnetic Stripe, Proximity, Wiegand, Bar Code, Smart Card, RF, IR, and Biometric. Technologies may be combined on the same controller in any combination.

### High Security Reader Channel

The DIGI\*TRAC controller supports electrically isolated terminal blocks that provide communications and power to the ScramblePad, ScrambleProx and MATCH interfaces. The communication path allows multi-drop connections for keypads or dual technology applications.

User codes are digitized for transmission between a Hirsch ScramblePad, ScrambleProx or MATCH and the DIGI\*TRAC controller. Digital transmission allows longer wiring runs



than are normally available with conventional access control reader technologies.

**High Security Alarm Monitoring**

Hirsch uses very stable digitally processed analog inputs with 2% line supervision for high security alarm monitoring. A line supervision module (DTLM, MELM, or SBMS) is located at the door contact, alarm sensor, request to exit (RQE), or similar device to establish this supervision.

In lieu of “shunting,” which turns off supervision, Hirsch uses “alarm masking” for full-time supervision and reporting of line status — even during hours of authorized access. Conditions reported include: Alarm, Secure, RQE, Mask, Tamper Alarm, Tamper Secure, Short, Open, Noisy and Input-Out-of-Spec.

**Relay Control System**

Relay outputs on DIGI\*TRAC controllers can be used for: electric door

locks and strikes, arming/disarming security systems, alarm annunciation, elevator floor control, HVAC control, lighting control, storage locker control, and many other equipment control applications. These relays may be activated by codes (via ScramblePad), cards (via MATCH and reader), time zones, alarms, or logic sequences linked to other relays.

When used with a ScramblePad, DIGI\*TRAC controllers are ideal for after-hours tenant override systems. A history of who issued the override command is available for tenant billing or audit trails.

**Programmer’s Terminal**

DIGI\*TRAC controllers can be programmed by either a ScramblePad or a PC using Hirsch Host software. The PC can be local or connected by LAN or modem. A ScramblePad used for a local control can also be used as a programmer’s terminal. Programming functions supported include: add & delete user access codes, assign

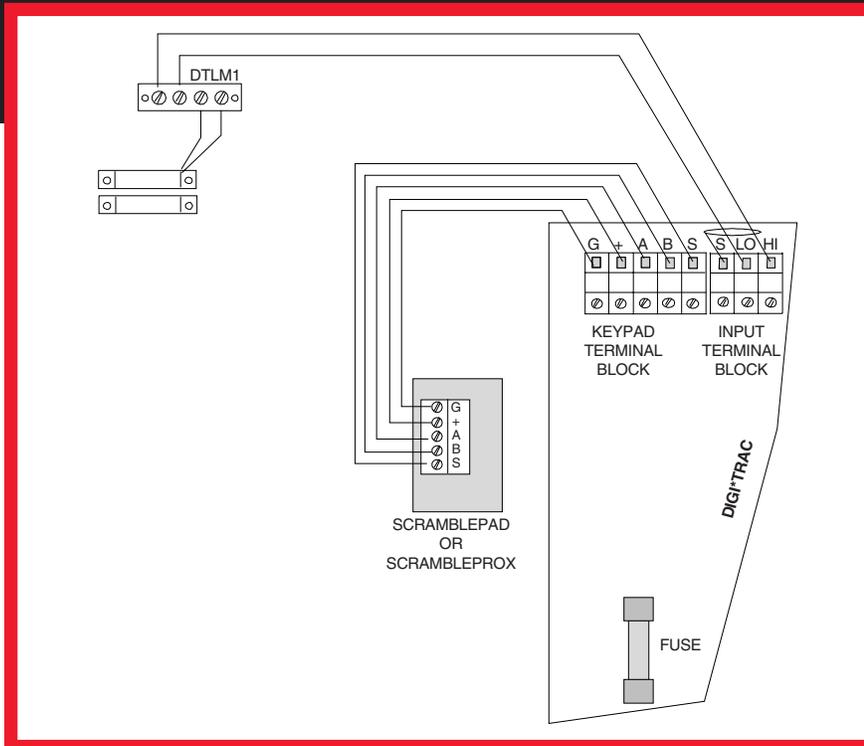
unlock/relock codes, assign alarm codes, and assign elevator control codes.

**SCRAMBLE\*NET**

DIGI\*TRAC controllers communicate with a Hirsch Host PC using SCRAMBLE\*NET protocol which uses an encryption algorithm for high security. The SCRAMBLE\*NET command/packet structure is ideal for LAN and hardwired paths, including RS-485 multi-drop and RS-232 via direct connect or dial-up modem.

**Reliability By Design**

DIGI\*TRAC Controllers are designed for “high availability” as complete systems solutions for global markets. Standby batteries for both memory and system operation are standard. The controller ships with an internal international power supply. All Keypad/Reader terminals and power circuits are fused. Each unit is configured in a heavy duty, NEMA-style enclosure, with a high security lock and tamper alarm.



Typical Controller-to-Alarm Point Wiring Diagram.

## Specifications

### Communications

- Serial Interface Ports:
  - SCRAMBLE\*NET: Requires SNIB. Encrypted message structure.
  - RS-485 multi-drop or RS-232 protocol
  - Optically isolated serial port
  - Baud Rate: 9600 or 19,200
  - RS-485: 4000 ft. (1220m) with 22 gauge. 2 pair, stranded, twisted, overall shield
  - RS232: 50 ft (15m) @9600 baud
- Parallel Printer Port: Standard
- Keypad/Reader Port: 16 device addresses
  - Any address for command and programming
  - Wiring: 750 ft (160m) with 22 gauge, 1800 ft (550m) with 18 gauge. 2 pair, stranded, twisted, overall shield.

### Firmware

- Command & Control Module (CCM):
  - Removable & Upgradable
  - Time Zones: 150
  - Access Zones: 128
  - Control Zones: 256
  - Holidays: Four 366 Day x 2 years
  - Daylight Savings Time Adjustment

- Dial-Up to Remote Host:
  - Phone Numbers: 4, with roll over
  - User selectable retry attempts
  - Call-back mode for security
  - Initiation by alarm, buffer % full, and/or time

### Memory

- Buffers: 1500 events, 1500 alarms standard
  - 20,000 events, 2,000 alarms with MEB/BE
  - 20,000 events, 2,000 alarms with MEB/CB (reduces users by 20%)
  - Oldest discarded first, if full
- Users: 4000 standard
  - 8000 with MEB/CE16
  - 20,000 with MEB/CE 32
  - 68,000 with MEB/CB64
  - 132,000 with MEB/CB128
- Battery Backup: 30 day for code, setups, clock and buffer

### Electrical

- Keypad/Reader Power: 2 terminals
  - 1.0 Amp @24VDC each, fused
  - 1.15 Amp @24VDC, total
  - Powers ScramblePad, ScrambleProx and MATCH

- Primary and Standby Power:
  - 90-130VAC, 50/60 Hz, fused
  - 180-260VAC, 50/60 Hz, fused
- Uninterruptible Power Supply
- Standby Batteries: 1.3 AH Included
- Control Relays: 2 Amp, Form C (requires REB8)
- Alarm Relays: 2 Amp, Form C
- LEDs:
  - Individual Relay Status
  - Battery (OK, Low, Fail)
  - AC (OK, Fail)
  - System (OK, Fail)
  - Keypad/MATCH (Poll, Response)
  - SCRAMBLE\*NET (Poll, Response)
  - Test Mode
  - Alarm Events in Buffer
  - Box Tamper Alarm

### Physical

- Door Tamper Switch
- Medeco High Security Key Lock
- Enclosure: NEMA type, with conduit knockouts & removable door
- Dimensions: 18"H x 15.25"W x 5.5"D (45.7cm x 38.7cm x 14cm)
- Expansion Boards: 6"H x 4.25" W x .75"D (15.2cm x 10.8cm x 1.9cm)
- Shipping Weight: 30lbs (13.6kg)
- Expansion Boards: 1 lb (.5kg)
- Operating Temperature Range: 32°F to 140°F (0° to 60°C)
- Relative Humidity: 0 to 90%, non-condensing

### Listing & Approvals

- UL 1076 Proprietary Burglar Alarm Systems, Grade AA
- CE

# Systems With Integrity

## Ordering Information — Controller

Model #	Description	Comments
M16N	DIGI*TRAC MODEL 16N - 16 Input	16 Input Controller. 4000 Users. Includes 16 Alarm Inputs (requires Line Modules), enclosure, power supply, battery, tamper switch, Medeco lock and SNIB. Supports Expansion Boards (NO AEB8 with SNAP, SAM, or MOMENTUM). CE. UL Listed. 115VAC.

Note: Add "-230" to model numbers for 230 VAC.

## Ordering Information — Expansion Boards & Modem

Model #	Description	Comments
AEB8	Alarm Expansion Board - 8 Inputs	Adds 8 additional high security alarm inputs. SNAP, SAM and MOMENTUM support up to 2 boards in M2, M8, MSP or M64. Velocity supports up to 4 boards in M2, M8, MSP, M64 and up to 2 boards in M16. Each input requires appropriate Line Module. Features removable connectors. UL Listed. CE.
REB8	Relay Expansion Board - 8 Relays	Adds 8 additional 2 Amp Form C relays to an M2, M8, M16 or MSP-8R. May not be installed in an M64. A total of 5 (4 if networked) REB8 Boards may be installed in all other DIGI*TRAC controllers. Removable connectors & status LEDs. UL Listed. CE.
MEB/BE	Memory Expansion Board - Buffer Expansion	Expands standard buffer from 1500 events and 1500 alarms to 20,000 events and 2,000 alarms with CCM 7.X. Expands standard buffer from 37 events and 37 alarms (700 events and 700 alarms with CE boards) to 20,000 events and 2,000 alarms with CCM 6.6. Protected from data loss during power failures for up to 30 days by controller memory battery. UL Listed. CE.
MEB/CE16	Memory Expansion Board - CODE Expansion 4,000/16,000	Expands CODE Memory from 4,000 to 8,000 on Velocity and MOMENTUM with CCM 7.X. Not recognized by SNAP or SAM with CCM 7.X. Expands CODE Memory from 1,000 to 16,000 maximum with CCM6.X. Protected from data loss during power failures for up to 30 days by controller memory battery. UL Listed. CE.
MEB/CB64	Memory Expansion Board - CODE Expansion of 64,000 with Buffer Option	Expands CODE Memory by 64,000 (from 4,000 to 68,000) with CM 7.X on Velocity and MOMENTUM. Not recognized by CCM 6.6 or earlier. A portion of the Code Memory may be allocated to alarm and event Buffers on Velocity only. Protected from data loss during power failures for up to 30 days by controller memory battery. CE. UL Listed.
MEB/CB128	Memory Expansion Board - CODE Expansion of 128,000 with Buffer Option	Expands CODE Memory by 128,000 (from 4000 to 132,000) with CCM 7.X on Velocity and MOMENTUM. Not recognized by CCM 6.6 or earlier. A portion of the Code Memory may be allocated to alarm and event Buffers on Velocity only. Protected from data loss during power failures for up to 30 days by controller memory battery. CE. UL Listed.
DM9600A-DL	DIGI*TRAC 9600 BAUD MODEM ASSEMBLY (Factory Set: Dial-Up Line)	A miniature 9600 Baud Modem Assembly that can be powered from & installed internally in the M1, M2, M8, M16 or MSP for remote site management via dial-up network. Includes cables, adaptor, & power supply harness. Do not use at Host PC or NET*MUX4 output.

Note: The DIGI\*TRAC M16 Controller can accommodate up to 5 expansion boards. Only one MEB/CE or MEB/CB is supported per controller. A maximum of 2 AEB8 expansion boards are supported in the M16 (only with CCM7.x or later and Velocity).



Specifications are subject to change without notice.

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PDS006-203



# HIRSCH READERS DATASHEET

## Card Reader - Indala Prox - Arch - S

Model#: CR-FP3511A

Black, 125kHz Slim FlexPass Arch reader (up to 5" read range). Standard 26 bit output. Weather resistant. Mullion mount, 4.5" x 1.72" x 0.85" in size. Powered directly by MR1A, MR1B, DS47L or DL1. 120" pigtail. Use Indala FlexPass (FP) 125Khz proximity cards and tags. Replaces CR-ASR-603BL.



## Card Reader - Indala Prox - Arch - WS

Model#: CR-FP3521A

Black, 125kHz Wall Switch FlexPass Arch reader (up to 5" read range). Standard 26 bit output. Weather resistant. Single gang box mount, 4.5" x 2.99" x 0.85" in size. Powered directly by MR1A, MR1B, DS47L or DL1. 120" pigtail. Use Indala FlexPass (FP) 125Khz proximity cards and tags. Replaces CR-ASR-605BL.





# HIRSCH READERS DATASHEET

## Card Reader - Indala Prox - Arch - S

Model#: CR-FP3511A

Black, 125kHz Slim FlexPass Arch reader (up to 5" read range). Standard 26 bit output. Weather resistant. Mullion mount, 4.5" x 1.72" x 0.85" in size. Powered directly by MR1A, MR1B, DS47L or DL1. 120" pigtail. Use Indala FlexPass (FP) 125Khz proximity cards and tags. Replaces CR-ASR-603BL.



## Card Reader - Indala Prox - Arch - WS

Model#: CR-FP3521A

Black, 125kHz Wall Switch FlexPass Arch reader (up to 5" read range). Standard 26 bit output. Weather resistant. Single gang box mount, 4.5" x 2.99" x 0.85" in size. Powered directly by MR1A, MR1B, DS47L or DL1. 120" pigtail. Use Indala FlexPass (FP) 125Khz proximity cards and tags. Replaces CR-ASR-605BL.






**BOSCH**

Invented for life

# VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



- ▶ **Low-impact and impact-resistant models**
- ▶ **1/3-inch format CCD imager**
- ▶ **Superior picture clarity in virtually all situations**
- ▶ **540 TVL color resolution**
- ▶ **AC or DC operation**
- ▶ **Patented dome shape for 90° vertical view**
- ▶ **Extended sensitivity with NightSense**
- ▶ **Bilinx bi-directional communication**

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome<sup>XT+</sup> version can withstand the equivalent of 120 lbs of force. The FlexiDome<sup>VF</sup> utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses. Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

## Functions

### Technology

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

### Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

### Controls and Indicators

- OSD
- 5-key operation

### Interconnections

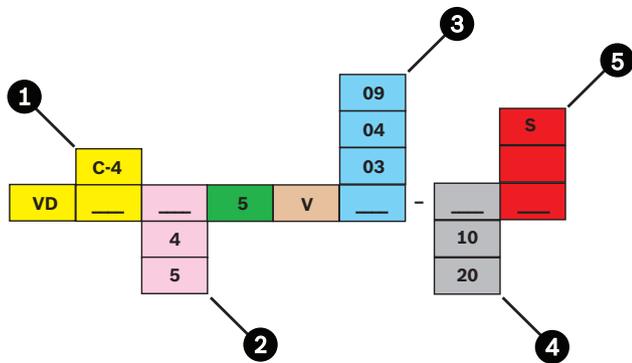
- Video connection BNC on flying lead
- Power connection on flying leads

2 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

**Certifications and Approvals**

Region	Certification	
Europe	CE	Declaration of Conformity VDX 355-455-485-495
USA	FCC	Declaration of Conformity VDX 355-455-485-495
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)	
Immunity	EN 50130-4 (CE)	
Emission	EN 50022 class B (CE); FCC, class B part 15	
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)	

**Installation/Configuration Notes**



<b>1</b>	<b>C-4</b>	<b>Color (with NightSense)</b>
<b>2</b>	4	Low impact
	5	High impact
<b>3</b>	03	2.6 to 6 mm F1.4
	04	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)
	09	9 to 22 mm F1.4
<b>4</b>	10	PAL color
	20	NTSC color
<b>5</b>		Flush mount
	S	Surface mount

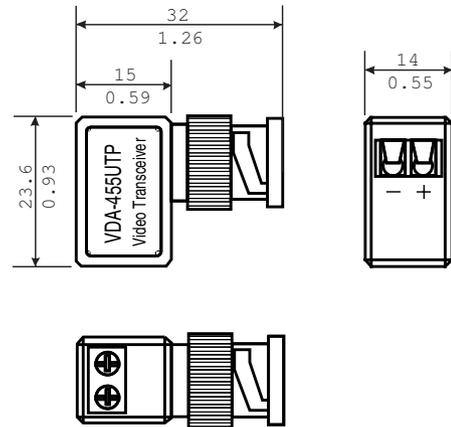
**FlexiDome<sup>VF</sup> model overview**

Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

**FlexiDome<sup>XT+</sup> model overview**

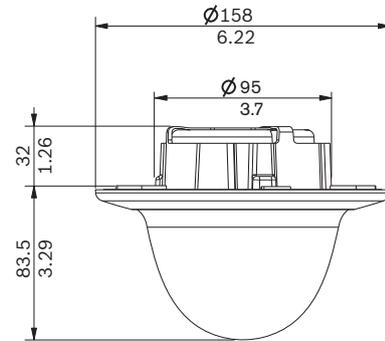
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

**BNC to UTP Transceiver**



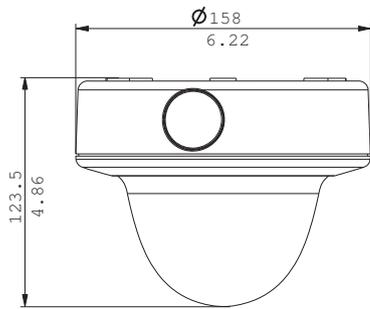
Dimensions in mm (in.)

**FlexiDome<sup>VF</sup> Low Impact, Indoor Flush Mounting Model**



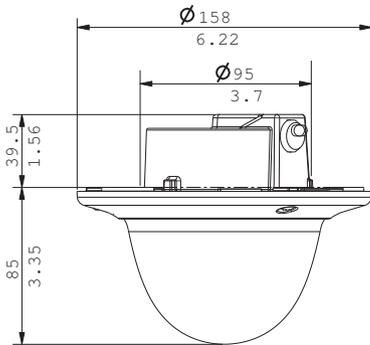
Dimensions in mm (in.)

**VDA-445SMB-Surface Mount Box**



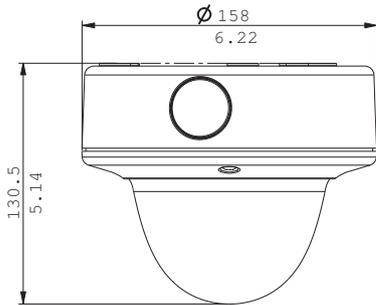
Dimensions in mm (in.) for the FlexiDome<sup>VF</sup> low-impact, indoor surface mounting model

**FlexiDome<sup>XT+</sup> Impact-resistant, Indoor Flush Mounting Model**



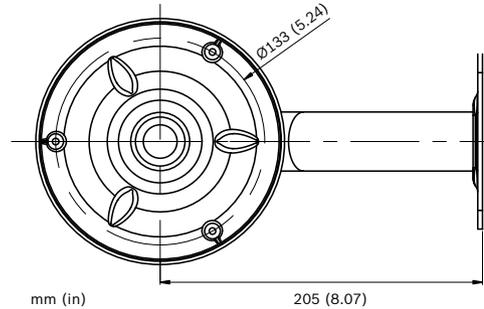
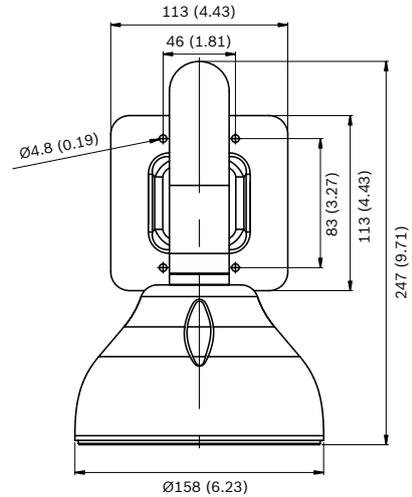
Dimensions in mm (in.)

**VDA-455SMB -Hardened Surface Mount Box**

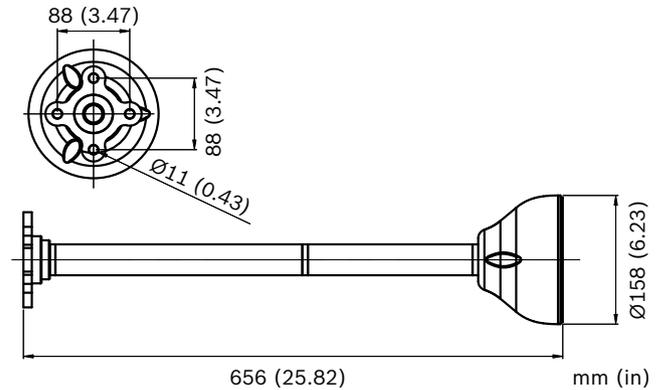


Dimensions in mm (in.) for the FlexiDome<sup>XT+</sup> impact-resistant, surface mounting model

**VDA-WMT-DOME -Pendant Wall Mount**

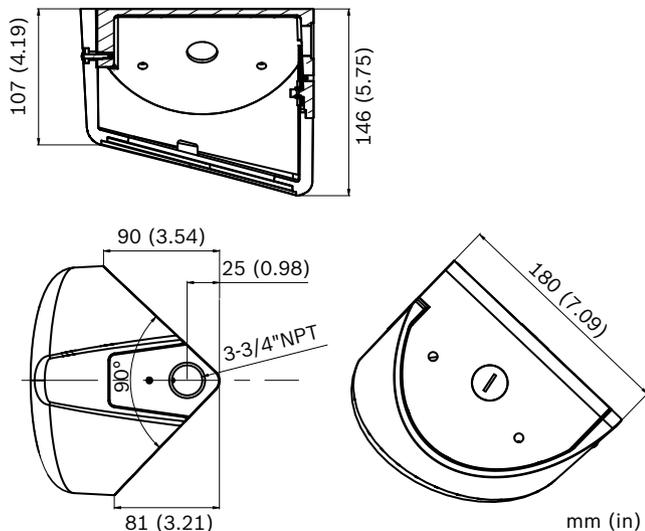


**VDA-PMT-DOME -Pipe Mount**



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VDA-CMT-DOME –Corner Mount



Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

\* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

Technical Specifications

Electrical

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

Sensitivity (3200 K)

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)
VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

Optical

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V)
	Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V)
	Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V)
	Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V)
	Tele: 12.8° x 9.6° (H x V)

Mechanical

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

VDC-4x5 Series Dome Cameras FlexiDome VF and XT+ | 5

**Environmental**

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

**Ordering Information**

<b>VDC-445V03-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	<b>VDC-445V03-10</b>
<b>VDC-445V03-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-10S</b>
<b>VDC-445V03-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-445V03-20</b>
<b>VDC-445V03-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-20S</b>
<b>VDC-445V04-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-10</b>
<b>VDC-445V04-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-10S</b>
<b>VDC-445V04-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-20</b>
<b>VDC-445V04-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-20S</b>
<b>VDC-455V03-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-10</b>

**Ordering Information**

<b>VDC-455V03-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-10S</b>
<b>VDC-455V03-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-20</b>
<b>VDC-455V03-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-20S</b>
<b>VDC-455V04-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-10</b>
<b>VDC-455V04-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-10S</b>
<b>VDC-455V04-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-20</b>
<b>VDC-455V04-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-20S</b>
<b>VDC-445V09-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-10</b>
<b>VDC-445V09-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-20</b>
<b>VDC-445V09-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-10S</b>
<b>VDC-445V09-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-20S</b>

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**Ordering Information**

**VDC-455V09-10 Vandal Resistant Color Model**      **VDC-455V09-10**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-20 Vandal Resistant Color Model**      **VDC-455V09-20**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-10S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-10S**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**VDC-455V09-20S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-20S**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**Accessories**

**VDA-445DMY-S**      **VDA-445DMY-S**  
Flexidome surface mounted indoor dummy camera

**VDA-445SMB**      **VDA-445SMB**  
Surface mount box, indoor for VDM-345 and VDC-445

**VDA-455SMB**      **VDA-455SMB**  
Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).

**VDA-455UTP**      **VDA-455UTP**  
Adaptor for UTP twisted pair output

**S1460 Service/Monitor Cable**      **S1460**  
for FlexiDome analog and IP (2.5 mm connector to BNC), 1 m

**UPA-1509-60 Power Supply**      **UPA-1509-60**  
120 VAC, 60 Hz, 15 VDC, 9 VA Out

**UPA-1509-50 Power Supply**      **UPA-1509-50**  
220 VAC, 50 Hz, 15 VDC, 9 VA Out

**UPA-2420-50 Power Supply**      **UPA-2420-50**  
220 VAC, 50 Hz, 24 VAC, 20 VA Out

**UPA-2450-50 Power Supply**      **UPA-2450-50**  
220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.

**VDA-455TBL Tinted bubble**      **VDA-455TBL**  
Tinted bubble for FlexiDome series

**VDA-455CBL Clear bubble**      **VDA-455CBL**  
Clear Bubble for FlexiDome series

**Ordering Information**

**VDA-WMT-DOME Wall Pendant Mount Bracket**      **VDA-WMT-DOME**  
Wall pendant mount bracket for FlexiDome cameras

**VDA-CMT-DOME Corner Mount Bracket**      **VDA-CMT-DOME**  
Corner mount bracket for FlexiDome cameras

**VDA-PMT-DOME Pendant Pipe Mount Bracket**      **VDA-PMT-DOME**  
Pendant pipe mount bracket for FlexiDome cameras

**Software Options**

**VP-CFGSFT Configuration Software**      **VP-CFGSFT**  
for cameras using Bilinx, includes VP-USB Adaptor

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Fax: +1 585 223 9180  
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www.boschsecurity.asia

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Invented for life

# VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



- ▶ **Low-impact and impact-resistant models**
- ▶ **1/3-inch format CCD imager**
- ▶ **Superior picture clarity in virtually all situations**
- ▶ **540 TVL color resolution**
- ▶ **AC or DC operation**
- ▶ **Patented dome shape for 90° vertical view**
- ▶ **Extended sensitivity with NightSense**
- ▶ **Bilinx bi-directional communication**

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome<sup>XT+</sup> version can withstand the equivalent of 120 lbs of force. The FlexiDome<sup>VF</sup> utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses. Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

## Functions

### Technology

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

### Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

### Controls and Indicators

- OSD
- 5-key operation

### Interconnections

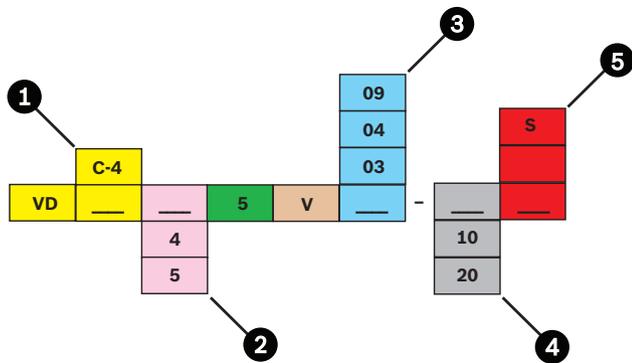
- Video connection BNC on flying lead
- Power connection on flying leads

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**Certifications and Approvals**

Region	Certification	
Europe	CE	Declaration of Conformity VDX 355-455-485-495
USA	FCC	Declaration of Conformity VDX 355-455-485-495
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)	
Immunity	EN 50130-4 (CE)	
Emission	EN 50022 class B (CE); FCC, class B part 15	
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)	

**Installation/Configuration Notes**



<b>1</b>	<b>C-4</b>	<b>Color (with NightSense)</b>
<b>2</b>	4	Low impact
	5	High impact
<b>3</b>	03	2.6 to 6 mm F1.4
	04	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)
	09	9 to 22 mm F1.4
<b>4</b>	10	PAL color
	20	NTSC color
<b>5</b>		Flush mount
	S	Surface mount

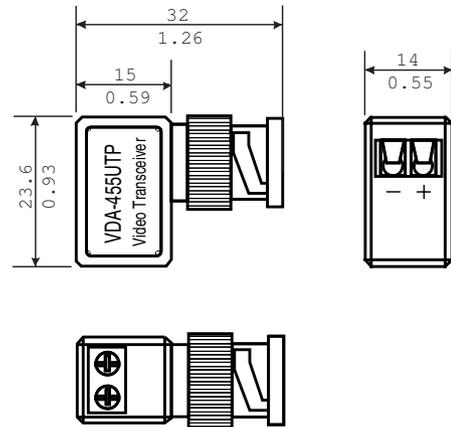
**FlexiDome<sup>VF</sup> model overview**

Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

**FlexiDome<sup>XT+</sup> model overview**

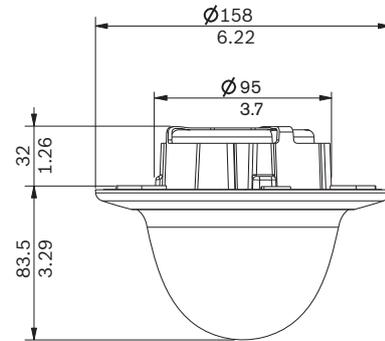
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

**BNC to UTP Transceiver**



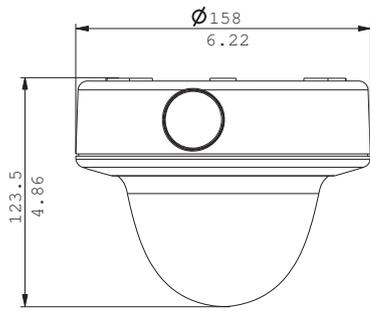
Dimensions in mm (in.)

**FlexiDome<sup>VF</sup> Low Impact, Indoor Flush Mounting Model**



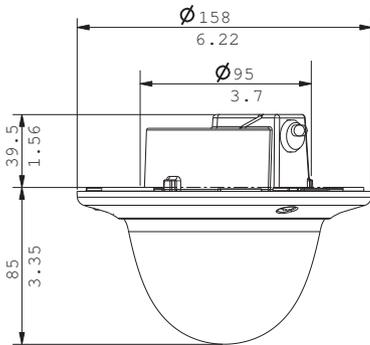
Dimensions in mm (in.)

**VDA-445SMB-Surface Mount Box**



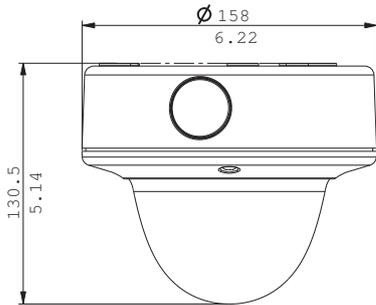
Dimensions in mm (in.) for the FlexiDome<sup>VF</sup> low-impact, indoor surface mounting model

**FlexiDome<sup>XT+</sup> Impact-resistant, Indoor Flush Mounting Model**



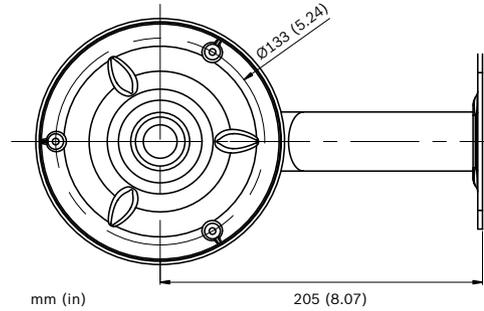
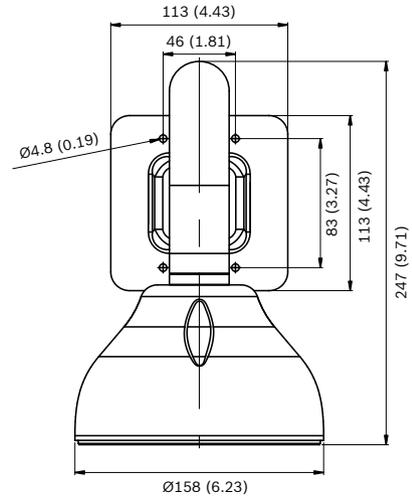
Dimensions in mm (in.)

**VDA-455SMB -Hardened Surface Mount Box**

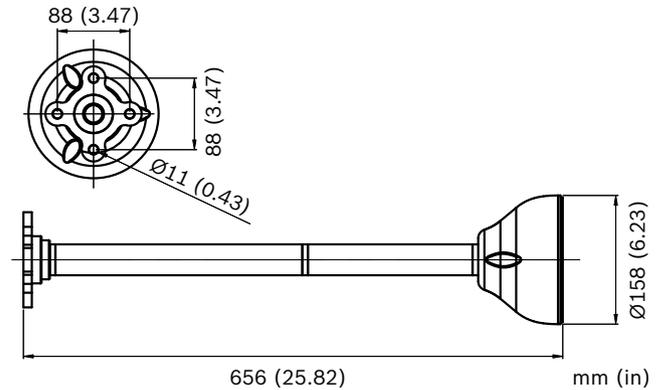


Dimensions in mm (in.) for the FlexiDome<sup>XT+</sup> impact-resistant, surface mounting model

**VDA-WMT-DOME -Pendant Wall Mount**

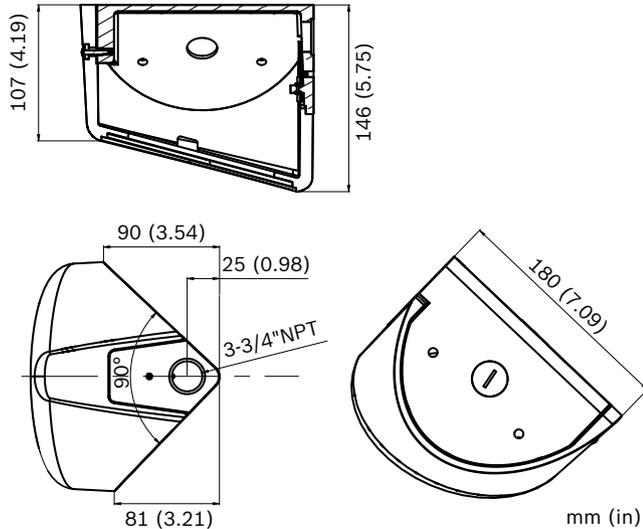


**VDA-PMT-DOME -Pipe Mount**



4 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

**VDA-CMT-DOME –Corner Mount**



Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

\* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

**Technical Specifications**

**Electrical**

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

**Sensitivity (3200 K)**

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)
VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

**Optical**

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V)
	Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V)
	Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V)
	Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V)
	Tele: 12.8° x 9.6° (H x V)

**Mechanical**

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

VDC-4x5 Series Dome Cameras FlexiDome VF and XT+ | 5

**Environmental**

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

**Ordering Information**

<b>VDC-445V03-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	<b>VDC-445V03-10</b>
<b>VDC-445V03-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-10S</b>
<b>VDC-445V03-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-445V03-20</b>
<b>VDC-445V03-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-20S</b>
<b>VDC-445V04-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-10</b>
<b>VDC-445V04-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-10S</b>
<b>VDC-445V04-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-20</b>
<b>VDC-445V04-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-20S</b>
<b>VDC-455V03-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-10</b>

**Ordering Information**

<b>VDC-455V03-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-10S</b>
<b>VDC-455V03-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-20</b>
<b>VDC-455V03-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-20S</b>
<b>VDC-455V04-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-10</b>
<b>VDC-455V04-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-10S</b>
<b>VDC-455V04-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-20</b>
<b>VDC-455V04-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-20S</b>
<b>VDC-445V09-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-10</b>
<b>VDC-445V09-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-20</b>
<b>VDC-445V09-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-10S</b>
<b>VDC-445V09-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-20S</b>

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**Ordering Information**

**VDC-455V09-10 Vandal Resistant Color Model**      **VDC-455V09-10**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-20 Vandal Resistant Color Model**      **VDC-455V09-20**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-10S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-10S**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**VDC-455V09-20S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-20S**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**Accessories**

**VDA-445DMY-S**      **VDA-445DMY-S**  
Flexidome surface mounted indoor dummy camera

**VDA-445SMB**      **VDA-445SMB**  
Surface mount box, indoor for VDM-345 and VDC-445

**VDA-455SMB**      **VDA-455SMB**  
Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).

**VDA-455UTP**      **VDA-455UTP**  
Adaptor for UTP twisted pair output

**S1460 Service/Monitor Cable**      **S1460**  
for FlexiDome analog and IP (2.5 mm connector to BNC), 1 m

**UPA-1509-60 Power Supply**      **UPA-1509-60**  
120 VAC, 60 Hz, 15 VDC, 9 VA Out

**UPA-1509-50 Power Supply**      **UPA-1509-50**  
220 VAC, 50 Hz, 15 VDC, 9 VA Out

**UPA-2420-50 Power Supply**      **UPA-2420-50**  
220 VAC, 50 Hz, 24 VAC, 20 VA Out

**UPA-2450-50 Power Supply**      **UPA-2450-50**  
220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.

**VDA-455TBL Tinted bubble**      **VDA-455TBL**  
Tinted bubble for FlexiDome series

**VDA-455CBL Clear bubble**      **VDA-455CBL**  
Clear Bubble for FlexiDome series

**Ordering Information**

**VDA-WMT-DOME Wall Pendant Mount Bracket**      **VDA-WMT-DOME**  
Wall pendant mount bracket for FlexiDome cameras

**VDA-CMT-DOME Corner Mount Bracket**      **VDA-CMT-DOME**  
Corner mount bracket for FlexiDome cameras

**VDA-PMT-DOME Pendant Pipe Mount Bracket**      **VDA-PMT-DOME**  
Pendant pipe mount bracket for FlexiDome cameras

**Software Options**

**VP-CFGSFT Configuration Software**      **VP-CFGSFT**  
for cameras using Bilinx, includes VP-USB Adaptor

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Fax: +1 585 223 9180  
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**BOSCH**

Invented for life

# VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



- ▶ **Low-impact and impact-resistant models**
- ▶ **1/3-inch format CCD imager**
- ▶ **Superior picture clarity in virtually all situations**
- ▶ **540 TVL color resolution**
- ▶ **AC or DC operation**
- ▶ **Patented dome shape for 90° vertical view**
- ▶ **Extended sensitivity with NightSense**
- ▶ **Bilinx bi-directional communication**

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome<sup>XT+</sup> version can withstand the equivalent of 120 lbs of force. The FlexiDome<sup>VF</sup> utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses. Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

## Functions

### Technology

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

### Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

### Controls and Indicators

- OSD
- 5-key operation

### Interconnections

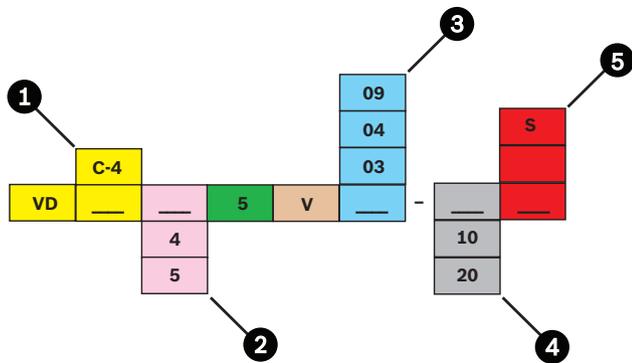
- Video connection BNC on flying lead
- Power connection on flying leads

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**Certifications and Approvals**

Region	Certification	
Europe	CE	Declaration of Conformity VDX 355-455-485-495
USA	FCC	Declaration of Conformity VDX 355-455-485-495
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)	
Immunity	EN 50130-4 (CE)	
Emission	EN 50022 class B (CE); FCC, class B part 15	
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)	

**Installation/Configuration Notes**



<b>1</b>	<b>C-4</b>	<b>Color (with NightSense)</b>
<b>2</b>	4	Low impact
	5	High impact
<b>3</b>	03	2.6 to 6 mm F1.4
	04	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)
	09	9 to 22 mm F1.4
<b>4</b>	10	PAL color
	20	NTSC color
<b>5</b>		Flush mount
	S	Surface mount

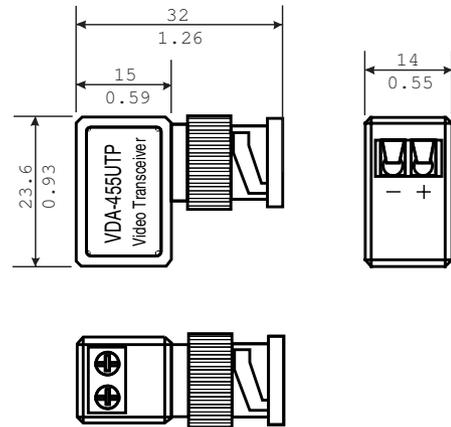
**FlexiDome<sup>VF</sup> model overview**

Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

**FlexiDome<sup>XT+</sup> model overview**

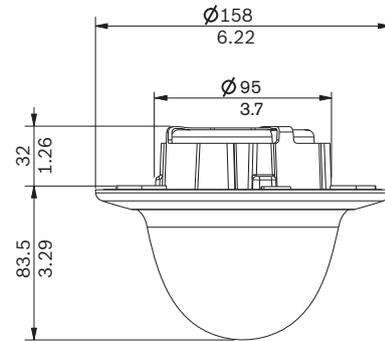
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

**BNC to UTP Transceiver**



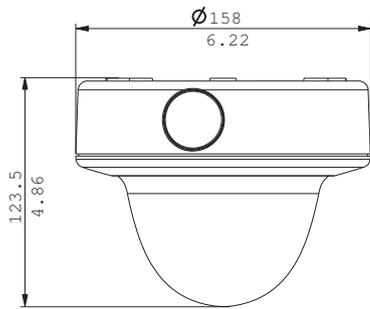
Dimensions in mm (in.)

**FlexiDome<sup>VF</sup> Low Impact, Indoor Flush Mounting Model**



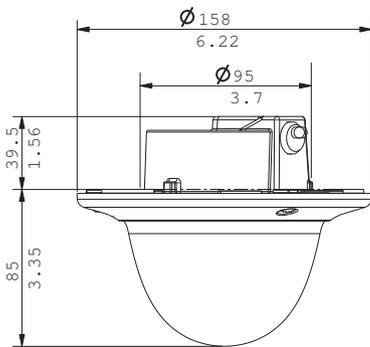
Dimensions in mm (in.)

**VDA-445SMB-Surface Mount Box**



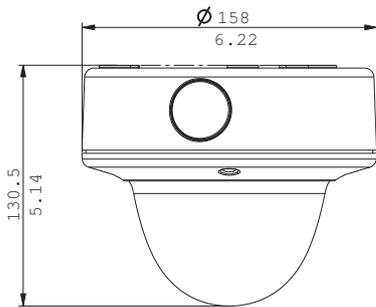
Dimensions in mm (in.) for the FlexiDome<sup>VF</sup> low-impact, indoor surface mounting model

**FlexiDome<sup>XT+</sup> Impact-resistant, Indoor Flush Mounting Model**



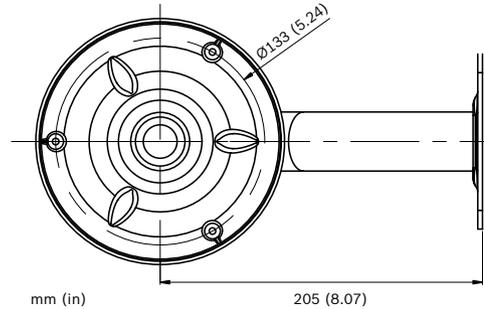
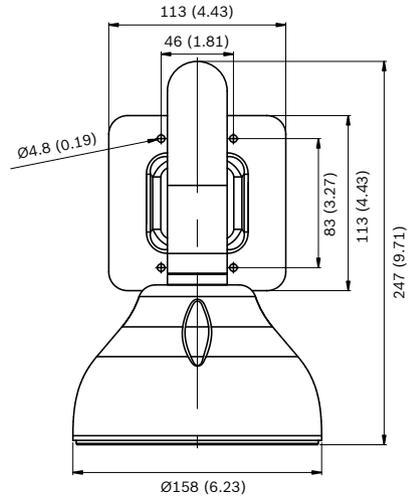
Dimensions in mm (in.)

**VDA-455SMB -Hardened Surface Mount Box**

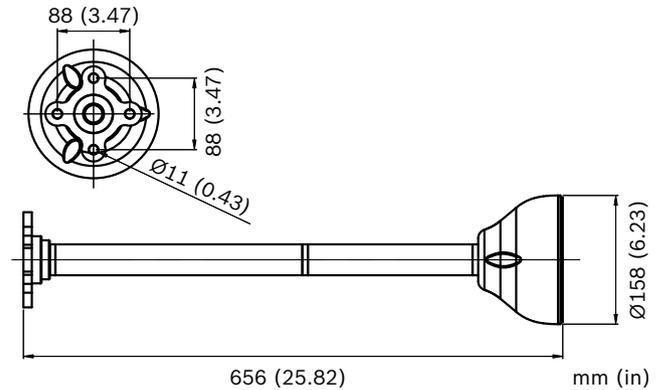


Dimensions in mm (in.) for the FlexiDome<sup>XT+</sup> impact-resistant, surface mounting model

**VDA-WMT-DOME -Pendant Wall Mount**

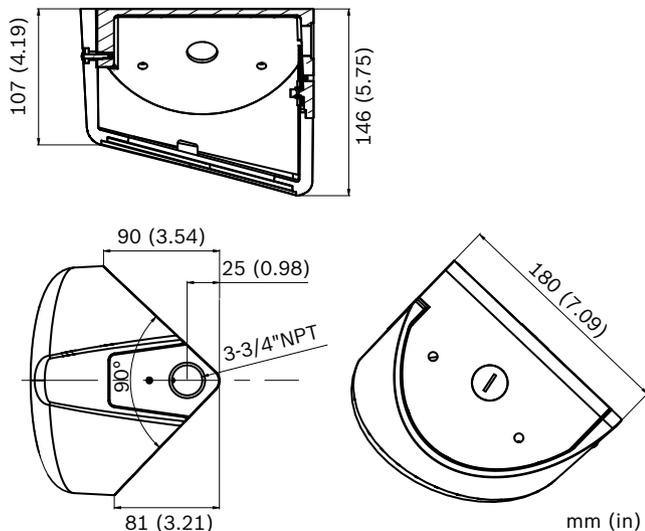


**VDA-PMT-DOME -Pipe Mount**



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**VDA-CMT-DOME –Corner Mount**



Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

\* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

**Technical Specifications**

**Electrical**

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

**Sensitivity (3200 K)**

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)
VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

**Optical**

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V) Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V) Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V) Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V) Tele: 12.8° x 9.6° (H x V)

**Mechanical**

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

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**Environmental**

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

**Ordering Information**

<b>VDC-445V03-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	<b>VDC-445V03-10</b>
<b>VDC-445V03-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-10S</b>
<b>VDC-445V03-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-445V03-20</b>
<b>VDC-445V03-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-20S</b>
<b>VDC-445V04-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-10</b>
<b>VDC-445V04-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-10S</b>
<b>VDC-445V04-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-20</b>
<b>VDC-445V04-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-20S</b>
<b>VDC-455V03-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-10</b>

**Ordering Information**

<b>VDC-455V03-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-10S</b>
<b>VDC-455V03-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-20</b>
<b>VDC-455V03-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-20S</b>
<b>VDC-455V04-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-10</b>
<b>VDC-455V04-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-10S</b>
<b>VDC-455V04-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-20</b>
<b>VDC-455V04-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-20S</b>
<b>VDC-445V09-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-10</b>
<b>VDC-445V09-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-20</b>
<b>VDC-445V09-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-10S</b>
<b>VDC-445V09-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-20S</b>

6 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

**Ordering Information**

**VDC-455V09-10 Vandal Resistant Color Model**      **VDC-455V09-10**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-20 Vandal Resistant Color Model**      **VDC-455V09-20**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-10S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-10S**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**VDC-455V09-20S Vandal Resistant Color Model, Surface Mount**      **VDC-455V09-20S**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**Accessories**

**VDA-445DMY-S**      **VDA-445DMY-S**  
Flexidome surface mounted indoor dummy camera

**VDA-445SMB**      **VDA-445SMB**  
Surface mount box, indoor for VDM-345 and VDC-445

**VDA-455SMB**      **VDA-455SMB**  
Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).

**VDA-455UTP**      **VDA-455UTP**  
Adaptor for UTP twisted pair output

**S1460 Service/Monitor Cable**      **S1460**  
for FlexiDome analog and IP (2.5 mm connector to BNC), 1 m

**UPA-1509-60 Power Supply**      **UPA-1509-60**  
120 VAC, 60 Hz, 15 VDC, 9 VA Out

**UPA-1509-50 Power Supply**      **UPA-1509-50**  
220 VAC, 50 Hz, 15 VDC, 9 VA Out

**UPA-2420-50 Power Supply**      **UPA-2420-50**  
220 VAC, 50 Hz, 24 VAC, 20 VA Out

**UPA-2450-50 Power Supply**      **UPA-2450-50**  
220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.

**VDA-455TBL Tinted bubble**      **VDA-455TBL**  
Tinted bubble for FlexiDome series

**VDA-455CBL Clear bubble**      **VDA-455CBL**  
Clear Bubble for FlexiDome series

**Ordering Information**

**VDA-WMT-DOME Wall Pendant Mount Bracket**      **VDA-WMT-DOME**  
Wall pendant mount bracket for FlexiDome cameras

**VDA-CMT-DOME Corner Mount Bracket**      **VDA-CMT-DOME**  
Corner mount bracket for FlexiDome cameras

**VDA-PMT-DOME Pendant Pipe Mount Bracket**      **VDA-PMT-DOME**  
Pendant pipe mount bracket for FlexiDome cameras

**Software Options**

**VP-CFGSFT Configuration Software**      **VP-CFGSFT**  
for cameras using Bilinx, includes VP-USB Adaptor

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www.boschsecurity.us

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Fax: +31 40 2577 330  
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www.boschsecurity.com

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## VDC-4x5 Series Dome Cameras FlexiDome VF and XT+



- ▶ **Low-impact and impact-resistant models**
- ▶ **1/3-inch format CCD imager**
- ▶ **Superior picture clarity in virtually all situations**
- ▶ **540 TVL color resolution**
- ▶ **AC or DC operation**
- ▶ **Patented dome shape for 90° vertical view**
- ▶ **Extended sensitivity with NightSense**
- ▶ **Bilinx bi-directional communication**

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series of dome cameras are an excellent solution for virtually any indoor or outdoor application. The cast aluminum housing, polycarbonate dome and hardened inner liner of the FlexiDome<sup>XT+</sup> version can withstand the equivalent of 120 lbs of force. The FlexiDome<sup>VF</sup> utilizes a standard indoor enclosure. These units contain full-featured color cameras with 1/3-inch CCD and integral varifocal lenses. Installation is quick and easy, since the cameras come completely assembled and ready to use. Using the proprietary pan/tilt/rotation mechanism, installers can select exactly the required field of view. Mounting options are numerous, including surface, 4S, wall, corner and suspended ceiling.

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> cameras are an ideal solution for many surveillance applications. Their compact, sleek design and virtually flush-mount appearance complement any decor. The camera enclosure provides the extra protection necessary for applications such as in schools, banks, prisons, parking garages, retail and commercial buildings.

### Functions

#### Technology

The FlexiDome<sup>VF</sup> and FlexiDome<sup>XT+</sup> series incorporate the latest technology in imaging, with 540 TVL resolution color cameras. Their superior sensitivity, high resolution and picture quality provide optimal performance in virtually all situations. The choice of lenses makes these cameras very versatile, because they can cover everything from standard and telephoto to low-light applications.

#### Operation

The lens wizard and focus aid make lens adjustment easy and straightforward, and ensure proper focus throughout the 24-hour cycle. All cameras can operate on both AC and DC. LineLock and phase adjustment are available, when AC power is used. NightSense is a feature that can extend the excellent sensitivity by a factor of three in monochrome operation. All cameras incorporate Bilinx, a technology that allows technicians to set up and control the camera settings remotely over the video cable.

#### Controls and Indicators

- OSD
- 5-key operation

#### Interconnections

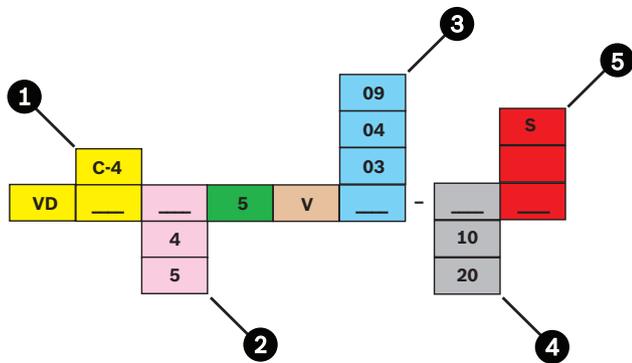
- Video connection BNC on flying lead
- Power connection on flying leads

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**Certifications and Approvals**

Region	Certification	
Europe	CE	Declaration of Conformity VDx 355-455-485-495
USA	FCC	Declaration of Conformity VDx 355-455-485-495
Safety	UL 1950; CSA 22.2 No. 950; EN 60950 (CE)	
Immunity	EN 50130-4 (CE)	
Emission	EN 50022 class B (CE); FCC, class B part 15	
Water/dust protection	IP 66 and NEMA-4X (VDC-455 models only)	

**Installation/Configuration Notes**



<b>1</b>	<b>C-4</b>	<b>Color (with NightSense)</b>
<b>2</b>	4	Low impact
	5	High impact
<b>3</b>	03	2.6 to 6 mm F1.4
	04	4 to 9 mm F1.6 (low impact version) 3.7 to 12 mm F1.6 (high impact version)
	09	9 to 22 mm F1.4
<b>4</b>	10	PAL color
	20	NTSC color
<b>5</b>		Flush mount
	S	Surface mount

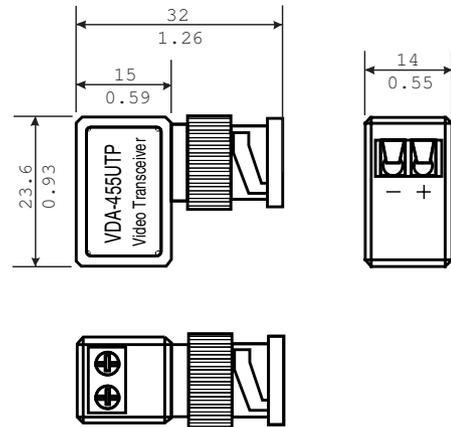
**FlexiDome<sup>VF</sup> model overview**

Model	Standard	Lens
VDC-445V03-10	PAL	2.6 to 6 mm F1.4
VDC-445V03-20	NTSC	2.6 to 6 mm F1.4
VDC-445V04-10	PAL	4 to 9 mm F1.6
VDC-445V04-20	NTSC	4 to 9 mm F1.6
VDC-445V09-10	PAL	9 to 22 mm F1.4
VDC-445V09-20	NTSC	9 to 22 mm F1.4

**FlexiDome<sup>XT+</sup> model overview**

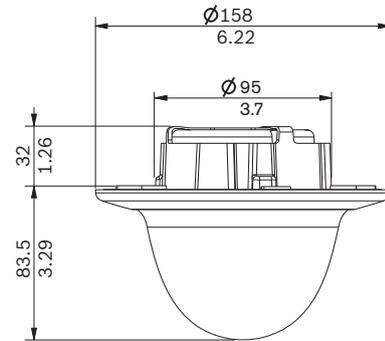
Model	Standard	Lens
VDC-455V03-10	PAL	2.6 to 6 mm F1.4
VDC-455V03-20	NTSC	2.6 to 6 mm F1.4
VDC-455V04-10	PAL	3.7 to 12 mm F1.6
VDC-455V04-20	NTSC	3.7 to 12 mm F1.6
VDC-455V09-10	PAL	9 to 22 mm F1.4
VDC-455V09-20	NTSC	9 to 22 mm F1.4

**BNC to UTP Transceiver**



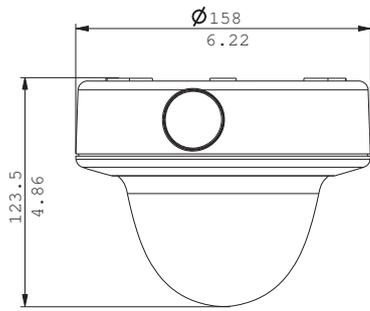
Dimensions in mm (in.)

**FlexiDome<sup>VF</sup> Low Impact, Indoor Flush Mounting Model**



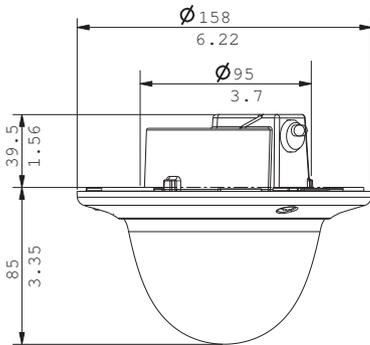
Dimensions in mm (in.)

**VDA-445SMB-Surface Mount Box**



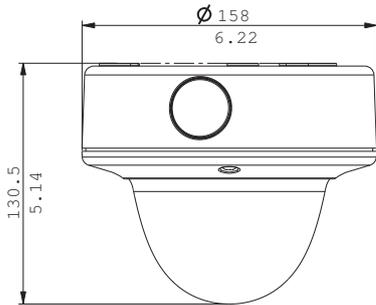
Dimensions in mm (in.) for the FlexiDome<sup>VF</sup> low-impact, indoor surface mounting model

**FlexiDome<sup>XT+</sup> Impact-resistant, Indoor Flush Mounting Model**



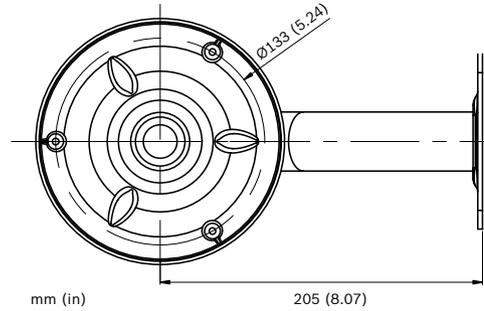
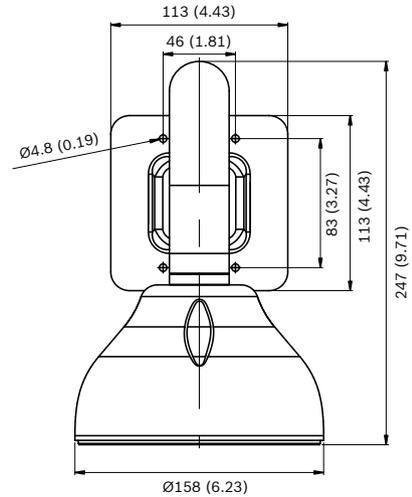
Dimensions in mm (in.)

**VDA-455SMB -Hardened Surface Mount Box**

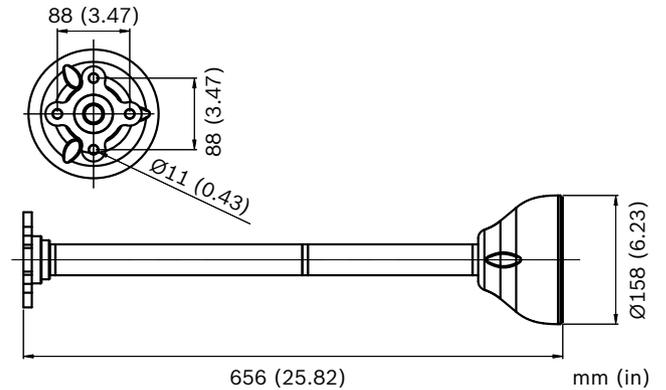


Dimensions in mm (in.) for the FlexiDome<sup>XT+</sup> impact-resistant, surface mounting model

**VDA-WMT-DOME -Pendant Wall Mount**

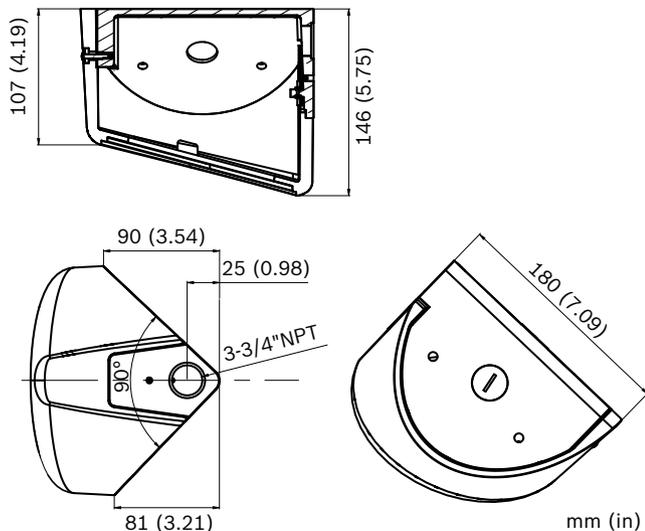


**VDA-PMT-DOME -Pipe Mount**



4 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

VDA-CMT-DOME –Corner Mount



Resolution	540 TVL
Signal-to-noise Ratio	>50 dB
AGC	20 dB (max)
Auto Black	On/off selectable
Electronic Shutter	Flickerless, on/off
NightSense	Auto, forced, off selectable
Sharpness Correction	Horizontal and vertical, symmetrical
Backlight Compensation	Center window weighting, off selectable
White Balance	Automatic sensing (2500 to 9000 K) and hold
Video Output	Composite video 1.0 Vpp, 75 Ohm
Synchronization	Internal or LineLock*
Connector	Flying leads (through the back)

\* Line-lock (only when AC-powered) synchronizes the camera to the power line zero crossing for roll-free vertical interval switching. Vertical phase delay can be adjusted (from 0° to 358°) to allow vertical synchronization in multi-phase power installations.

Technical Specifications

Electrical

Power Supply	
Rated Voltage	12 VDC or 24 VAC, 50/60 Hz
Voltage Range	10.8 to 39 VDC or 12 to 28 VAC, 45 to 65 Hz
Power Consumption	
VDC-445	4 W
VDC-455	4 W (6 W with heater operation)
Imager	Interline transfer CCD, 1/3-inch image format
Active Picture Elements	
PAL Models	752 H x 582 V
NTSC Models	768 H x 494 V

Sensitivity (3200 K)

Model		Usable Picture (30 IRE)	Usable Picture (50 IRE)	Full Video (100 IRE)
VDC-445V03 VDC-455V03	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)
VDC-445V04 VDC-455V04	Color	0.58 lx (0.053 fc)	1.3 lx (0.12 fc)	5.1 lx (0.48 fc)
	NightSense	0.23 lx (0.021 fc)	0.5 lx (0.048 fc)	2.0 lx (0.19 fc)
VDC-445V09 VDC-455V09	Color	0.44 lx (0.041 fc)	0.98 lx (0.091)	3.9 lx (0.36)
	NightSense	0.18 lx (0.016 fc)	0.39 lx (0.036 fc)	1.6 lx (0.15 fc)

Optical

Varifocal	Manual zoom and focus adjustment
Iris Control	Automatic iris control
Viewing Angle	
2.6 to 6 mm	Wide: 98.5° x 75.3° (H x V)
	Tele: 48.1° x 36.2° (H x V)
4 to 9 mm	Wide: 68° x 50.2° (H x V)
	Tele: 32.1° x 24.1° (H x V)
3.7 to 12 mm	Wide: 76.1° x 55.8° (H x V)
	Tele: 23.8° x 17.9° (H x V)
9 to 22 mm	Wide: 31.2° x 22.8° (H x V)
	Tele: 12.8° x 9.6° (H x V)

Mechanical

Dimensions	See drawings
Weight	
VDC-445	440 g (1.1 lb)
VDC-455	740 g (1.63 lb)
Mounting	Flush on hollow surface with three (3) screws in a 4S electrical box
Color	White (RAL9010) trim ring with black inner liner
Adjustment Range	360° pan, 90° tilt, ±90° azimuth
Dome Bubble	Polycarbonate, clear with UV blocking anti-scratch coating
Trim Ring	Vandal resistant models: aluminum Low impact models: polycarbonate

**Environmental**

Operating temperature	
VDC-445	-10 °C to +45 °C (+14 °F to +113 °F)
VDC-455	-50 °C to +50 °C (-58 °F to +122 °F) (with heater 'ON')
Storage temperature	-40 °C to +70 °C (-40 °F to +158 °F)
Humidity	5% to 93% relative humidity
Impact protection	IEC 60068-2-75 test Eh, 50 J; EN 50102, exceeding IK 10 (VDM-355 and VDC-455 models only)

**Ordering Information**

<b>VDC-445V03-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white.	<b>VDC-445V03-10</b>
<b>VDC-445V03-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-10S</b>
<b>VDC-445V03-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-445V03-20</b>
<b>VDC-445V03-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-445V03-20S</b>
<b>VDC-445V04-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-10</b>
<b>VDC-445V04-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-10S</b>
<b>VDC-445V04-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white	<b>VDC-445V04-20</b>
<b>VDC-445V04-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/4-9 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-445V04-20S</b>
<b>VDC-455V03-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-10</b>

**Ordering Information**

<b>VDC-455V03-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-10S</b>
<b>VDC-455V03-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white	<b>VDC-455V03-20</b>
<b>VDC-455V03-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/2.6-6 mm F1.4 Varifocal lens, white, surface mount	<b>VDC-455V03-20S</b>
<b>VDC-455V04-10 Vandal Resistant Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-10</b>
<b>VDC-455V04-10S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12V DC/24 VAC, 50 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-10S</b>
<b>VDC-455V04-20 Vandal Resistant Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white	<b>VDC-455V04-20</b>
<b>VDC-455V04-20S Vandal Resistant Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12V DC/24 VAC, 60 Hz, w/3.7-12 mm F1.6 Varifocal lens, white, surface mount	<b>VDC-455V04-20S</b>
<b>VDC-445V09-10 Indoor Color Model</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-10</b>
<b>VDC-445V09-20 Indoor Color Model</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.	<b>VDC-445V09-20</b>
<b>VDC-445V09-10S Indoor Color Model, Surface Mount</b> 1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-10S</b>
<b>VDC-445V09-20S Indoor Color Model, Surface Mount</b> 1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.	<b>VDC-445V09-20S</b>

6 | VDC-4x5 Series Dome Cameras FlexiDome VF and XT+

**Ordering Information**

**VDC-455V09-10 Vandal Resistant Color Model** **VDC-455V09-10**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-20 Vandal Resistant Color Model** **VDC-455V09-20**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white.

**VDC-455V09-10S Vandal Resistant Color Model, Surface Mount** **VDC-455V09-10S**

1/3-inch, PAL color, 540 TVL, 12 VDC/24 VAC, 50 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**VDC-455V09-20S Vandal Resistant Color Model, Surface Mount** **VDC-455V09-20S**

1/3-inch, NTSC color, 540 TVL, 12 VDC/24 VAC, 60 Hz, w/9-22 mm F1.4 Varifocal lens, white, surface mount.

**Accessories**

**VDA-445DMY-S** **VDA-445DMY-S**  
Flexidome surface mounted indoor dummy camera

**VDA-445SMB** **VDA-445SMB**  
Surface mount box, indoor for VDM-345 and VDC-445

**VDA-455SMB** **VDA-455SMB**  
Surface mount box, high impact for VDM-345, VDC-445, VDM-355, VDC-455, VDC-485 and VDN-495 (not for FlexiDome VF).

**VDA-455UTP** **VDA-455UTP**  
Adaptor for UTP twisted pair output

**S1460 Service/Monitor Cable** **S1460**  
for FlexiDome analog and IP (2.5 mm connector to BNC), 1 m

**UPA-1509-60 Power Supply** **UPA-1509-60**  
120 VAC, 60 Hz, 15 VDC, 9 VA Out

**UPA-1509-50 Power Supply** **UPA-1509-50**  
220 VAC, 50 Hz, 15 VDC, 9 VA Out

**UPA-2420-50 Power Supply** **UPA-2420-50**  
220 VAC, 50 Hz, 24 VAC, 20 VA Out

**UPA-2450-50 Power Supply** **UPA-2450-50**  
220 VAC, 50 Hz, 24 VAC, 50 VA Out  
For use with certain 24 VAC camera models.

**VDA-455TBL Tinted bubble** **VDA-455TBL**  
Tinted bubble for FlexiDome series

**VDA-455CBL Clear bubble** **VDA-455CBL**  
Clear Bubble for FlexiDome series

**Ordering Information**

**VDA-WMT-DOME Wall Pendant Mount Bracket** **VDA-WMT-DOME**  
Wall pendant mount bracket for FlexiDome cameras

**VDA-CMT-DOME Corner Mount Bracket** **VDA-CMT-DOME**  
Corner mount bracket for FlexiDome cameras

**VDA-PMT-DOME Pendant Pipe Mount Bracket** **VDA-PMT-DOME**  
Pendant pipe mount bracket for FlexiDome cameras

**Software Options**

**VP-CFGSFT Configuration Software** **VP-CFGSFT**  
for cameras using Bilinx, includes VP-USB Adaptor

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www.boschsecurity.asia

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**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parapet Mounted PTZ Envirodome

**Attachments**

AutoDome\_600\_Data\_sheet\_enUS\_18014400986189579.pdf

Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

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**BOSCH**  
Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

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engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable.

Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F 1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount <small>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</small>	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

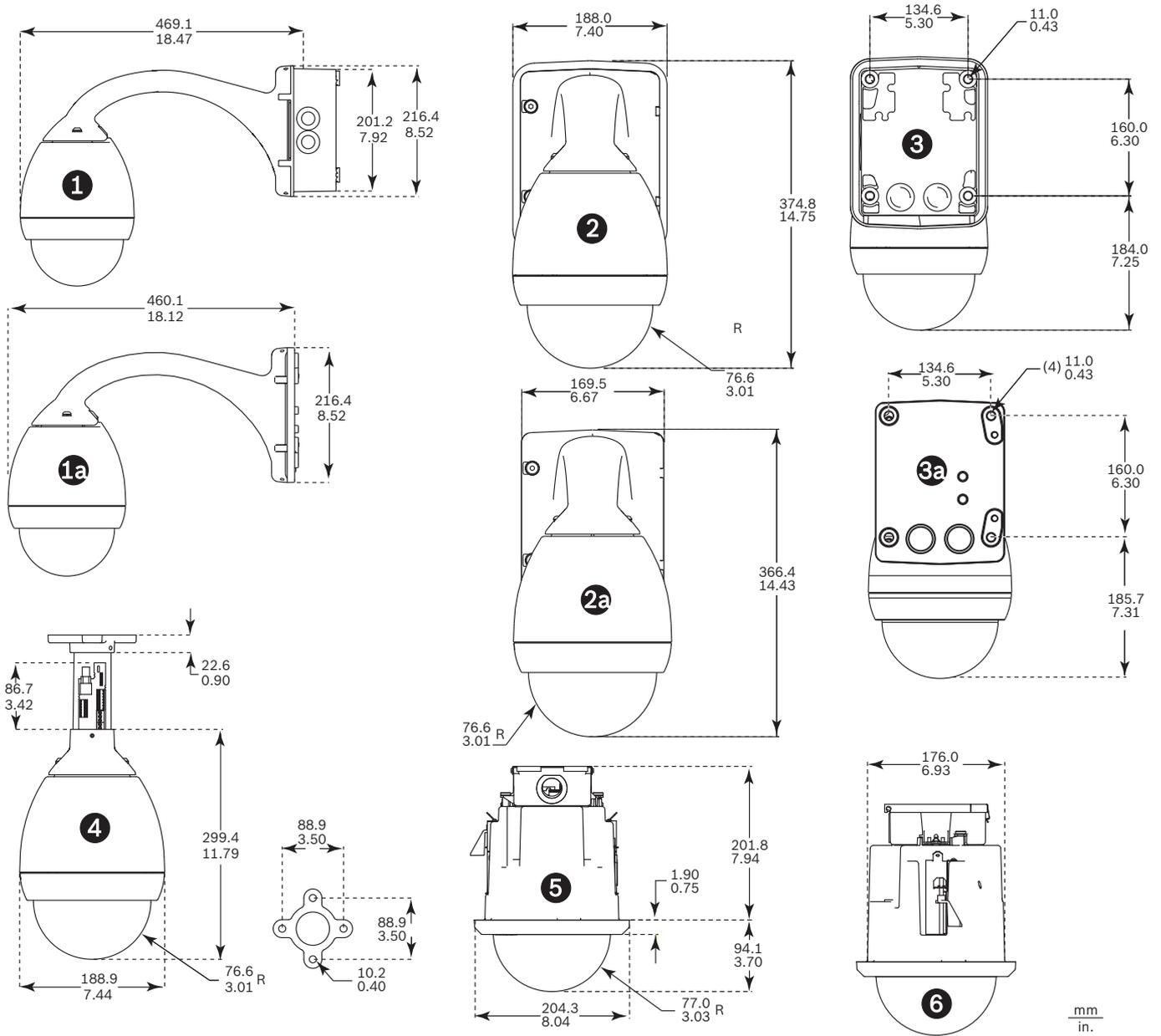
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to -60°C (-76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

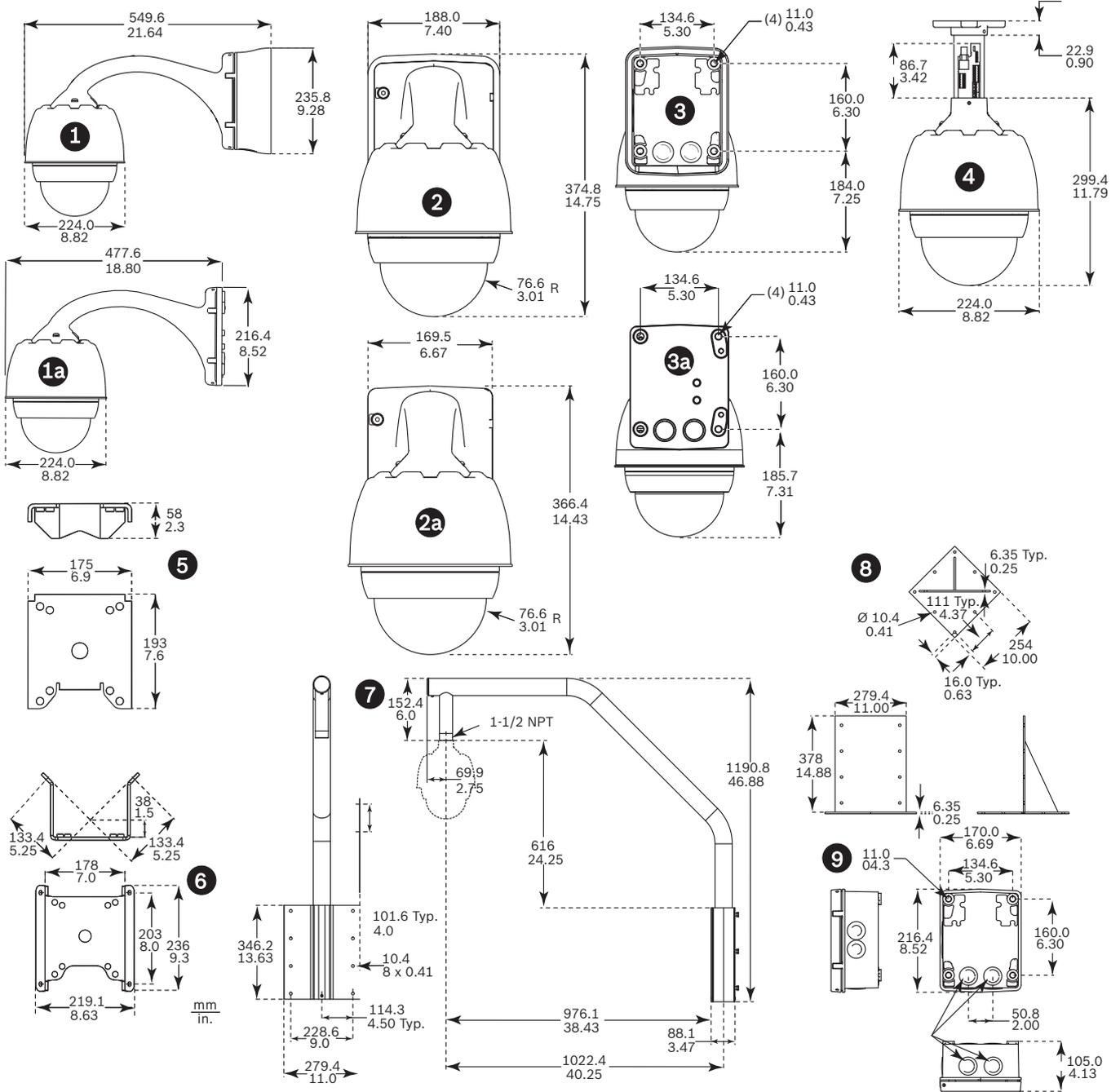


Indoor System Dimensions

Reference	Description
1	Wall Mount – Side with power supply
1a	Wall/Mast Mount – Side with VGA-PEND-WPLATE
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
3a	Wall Mount – Back with power supply
4	Pipe Mount
5	In-ceiling Mount – Front
6	In-ceiling Mount – Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:Parapet Mounted PTZ Envirodome

**Attachments**

AutoDome\_600\_Data\_sheet\_enUS\_18014400986189579.pdf

Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

www.boschsecurity.com


**BOSCH**

Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

## 2 | AutoDome 600 Series Analog PTZ Camera

engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable.

Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount (VG4-A-9543 Pipe Mount Cap required. Available separately.)	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

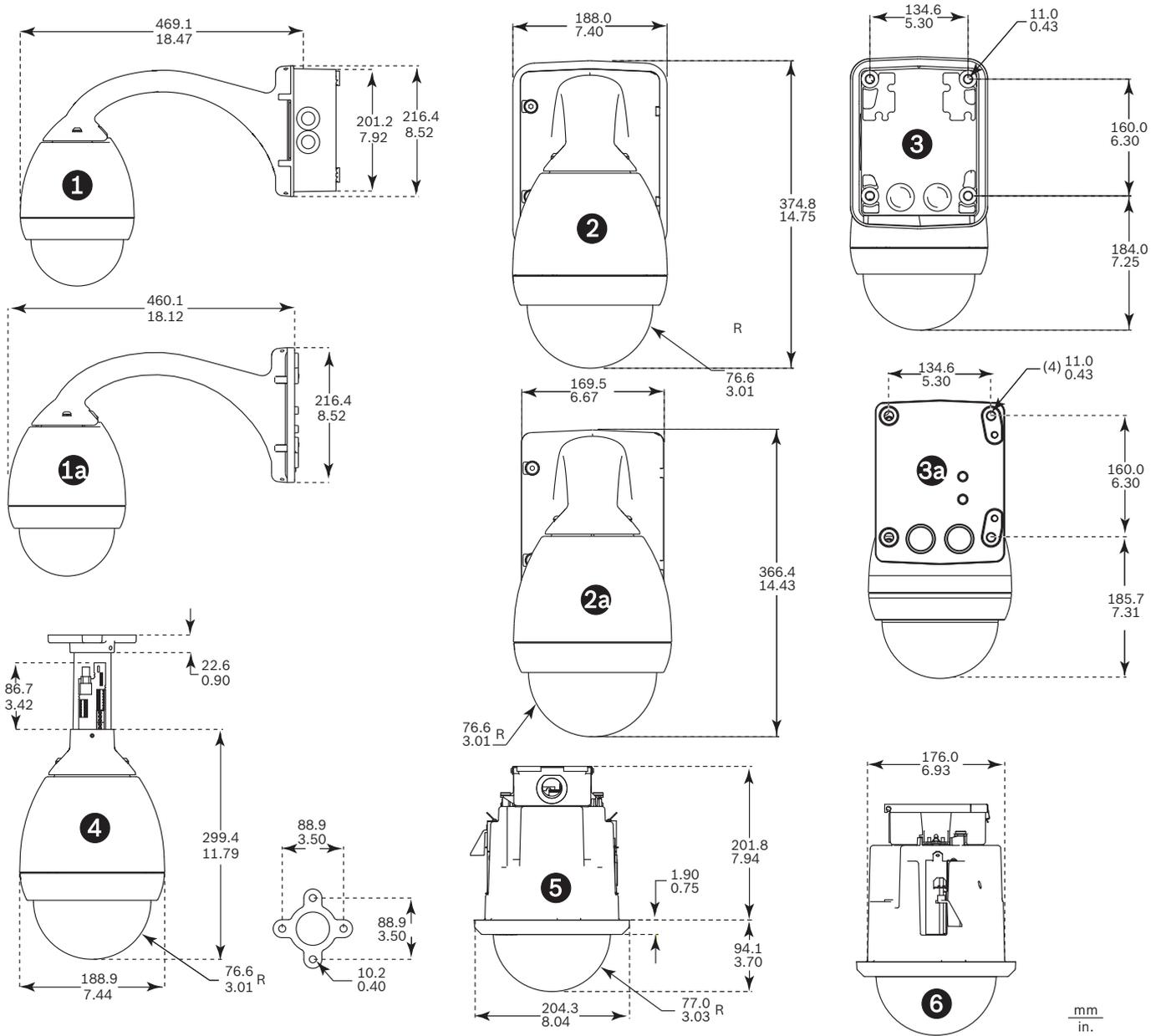
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to – 60°C (–76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

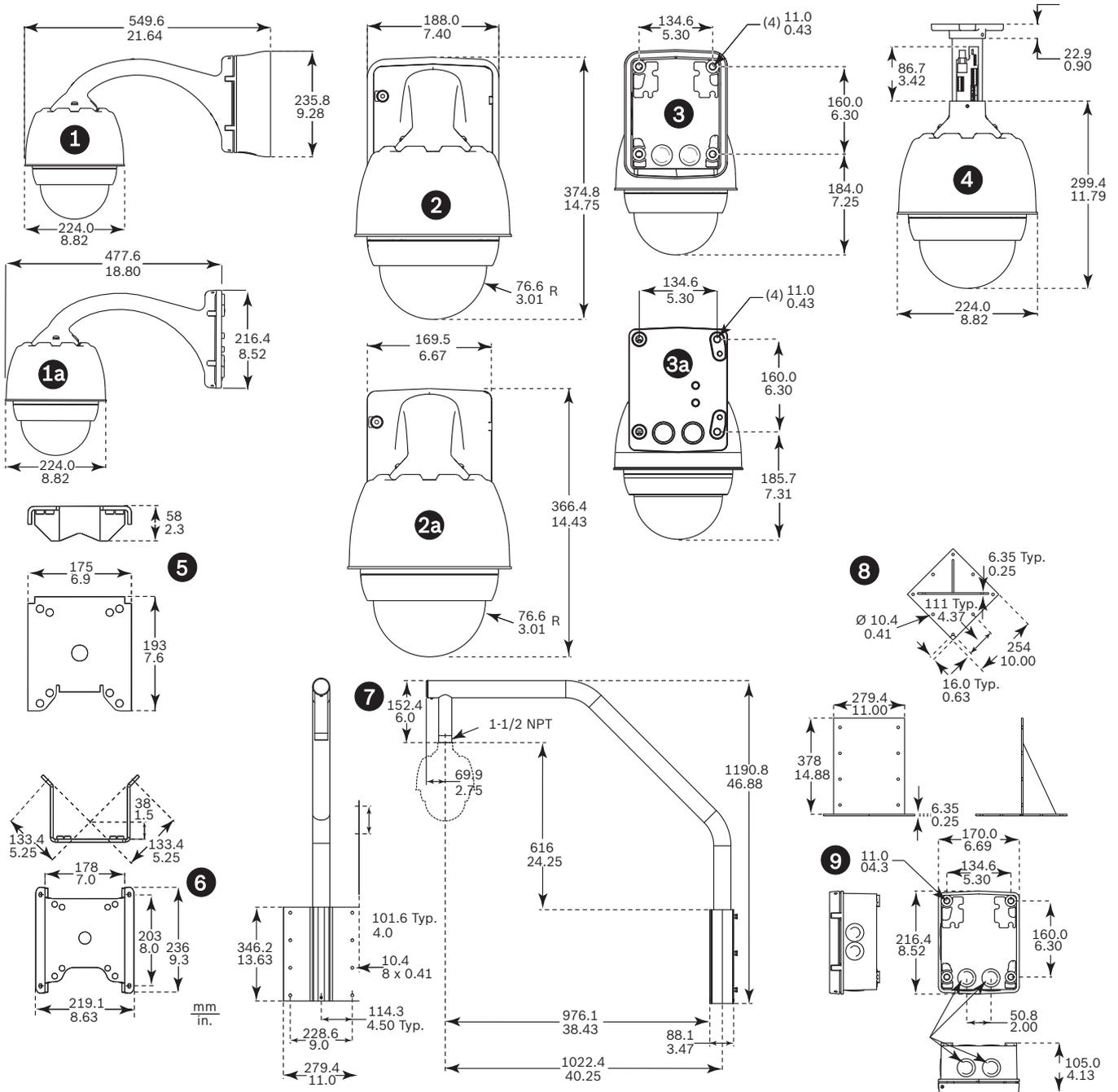


Indoor System Dimensions

Reference	Description
1	Wall Mount – Side with power supply
1a	Wall/Mast Mount – Side with VGA-PEND-WPLATE
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
3a	Wall Mount – Back with power supply
4	Pipe Mount
5	In-ceiling Mount – Front
6	In-ceiling Mount – Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

www.boschsecurity.com



**BOSCH**  
Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

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engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable. Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F 1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount <small>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</small>	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

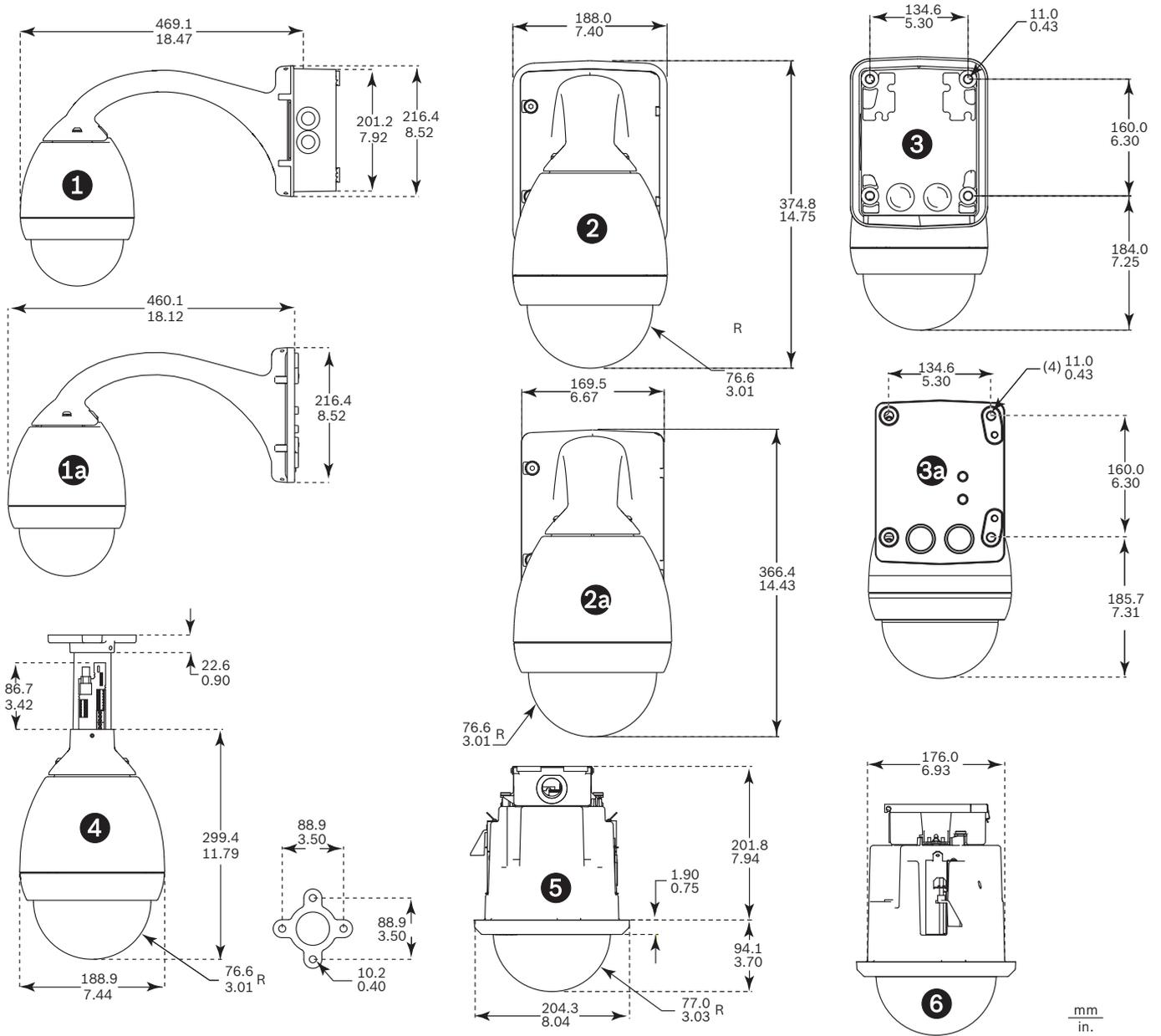
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to – 60°C (–76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

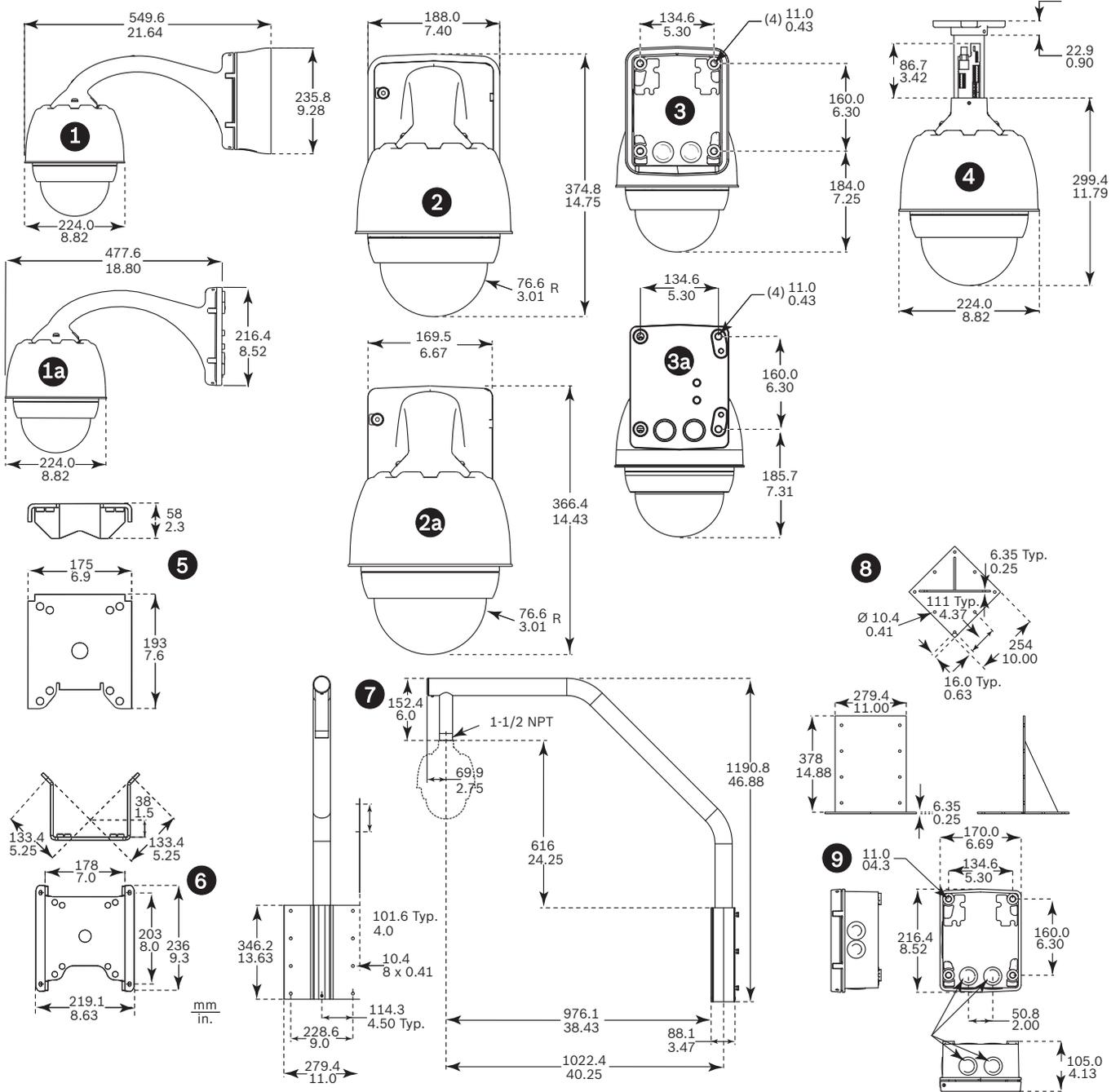


Indoor System Dimensions

Reference	Description
1	Wall Mount – Side with power supply
1a	Wall/Mast Mount – Side with VGA-PEND-WPLATE
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
3a	Wall Mount – Back with power supply
4	Pipe Mount
5	In-ceiling Mount – Front
6	In-ceiling Mount – Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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**

**11 | AutoDome 600 Series Analog PTZ Camera****VGA-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

www.boschsecurity.com


**BOSCH**

Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

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engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable.

Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount <small>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</small>	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

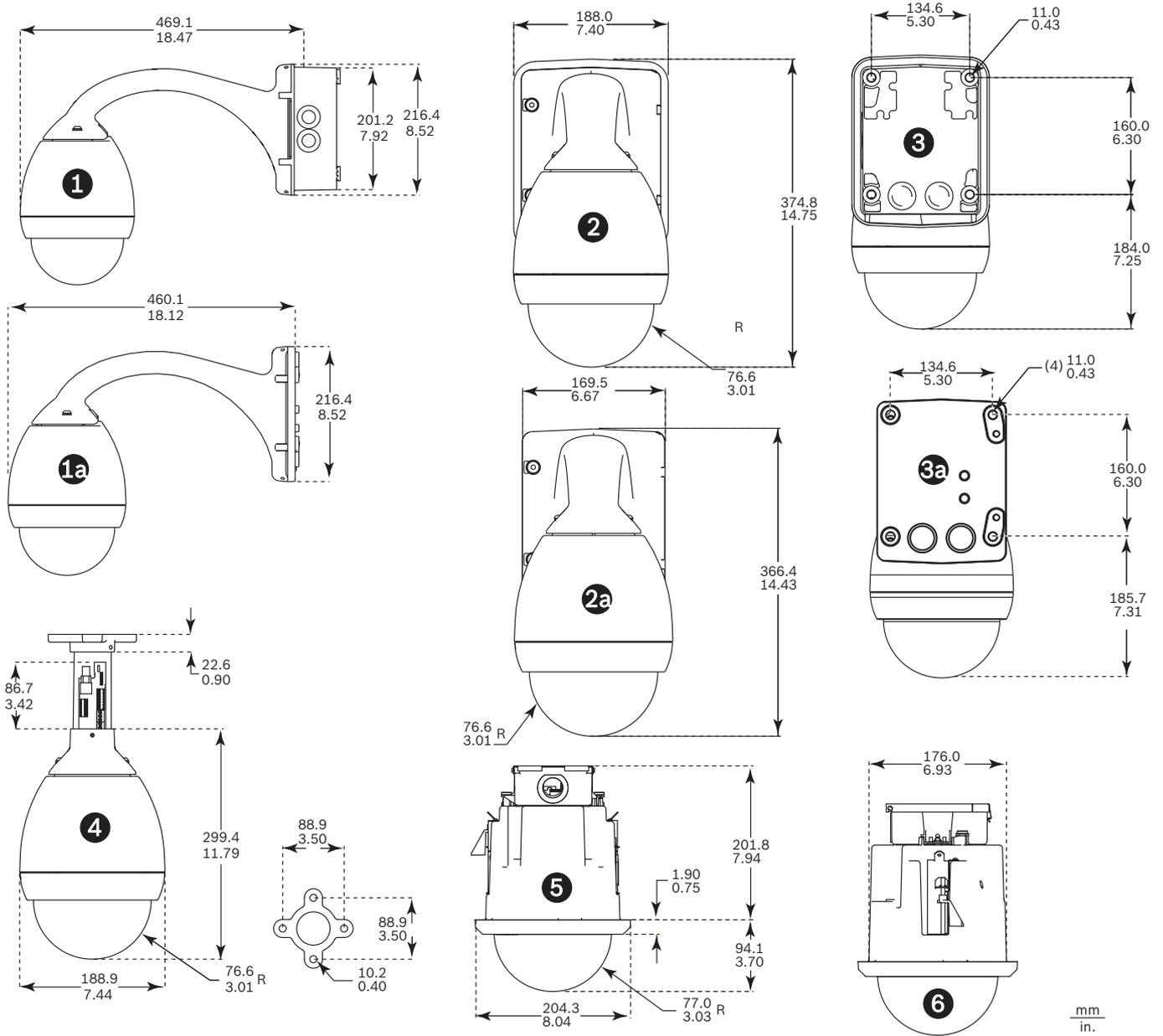
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to -60°C (-76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

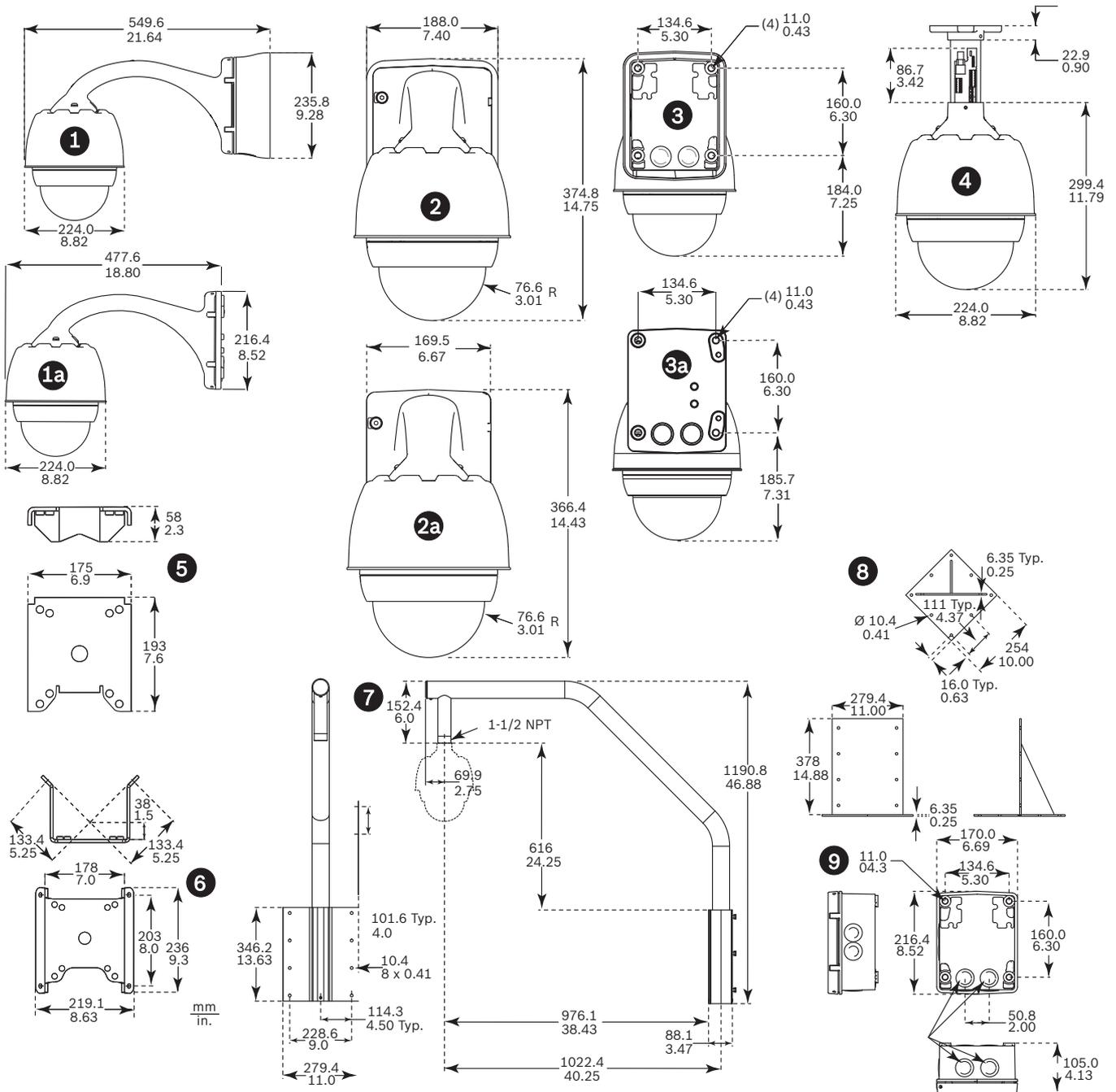


Indoor System Dimensions

Reference	Description
1	Wall Mount - Side with power supply
1a	Wall/Mast Mount - Side with VGA-PEND-WPLATE
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
3a	Wall Mount - Back with power supply
4	Pipe Mount
5	In-ceiling Mount - Front
6	In-ceiling Mount - Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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www.boschsecurity.com



Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

www.boschsecurity.com



**BOSCH**  
Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

## 2 | AutoDome 600 Series Analog PTZ Camera

engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable.

Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount <small>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</small>	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

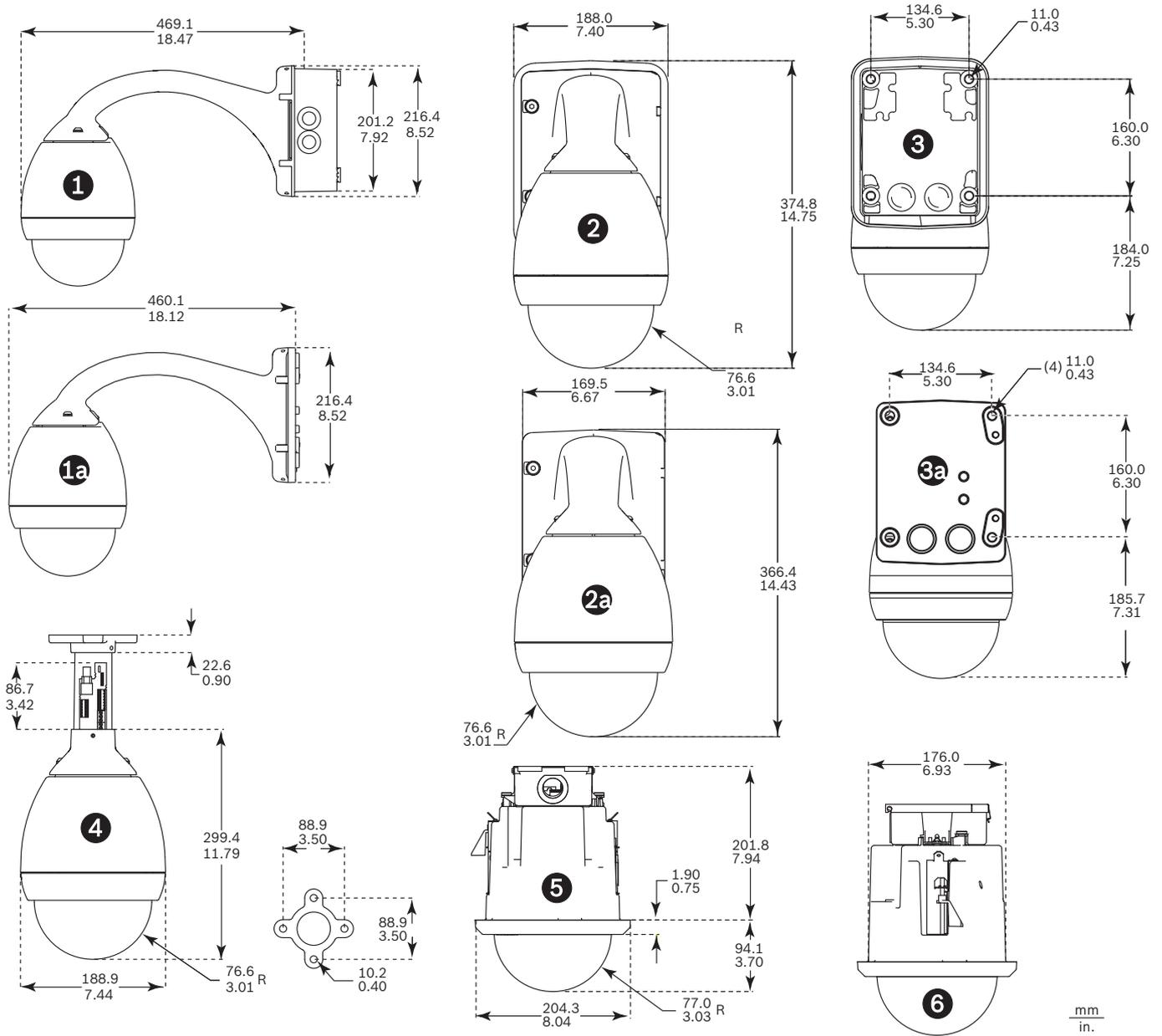
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to -60°C (-76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

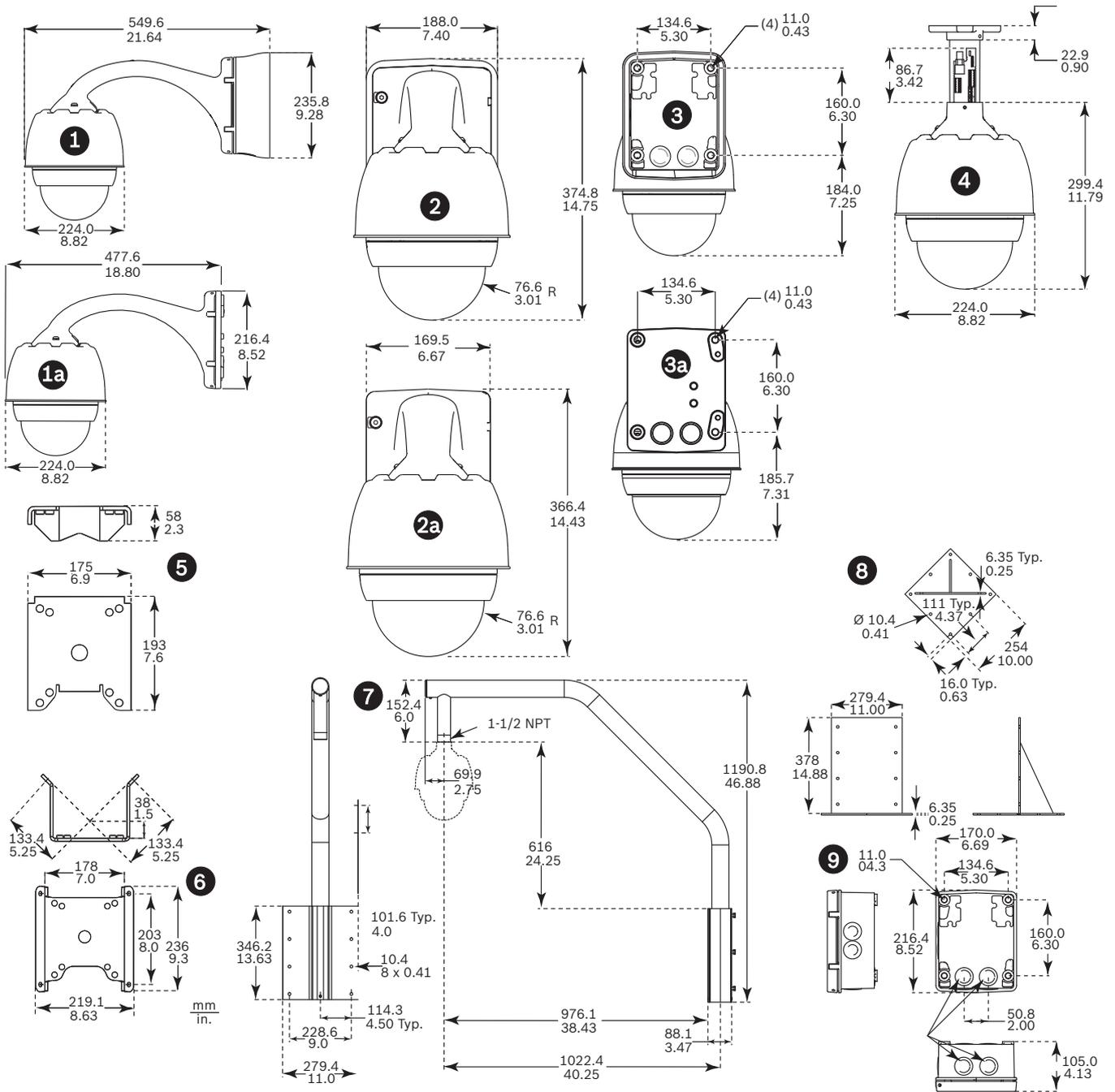


Indoor System Dimensions

Reference	Description
1	Wall Mount – Side with power supply
1a	Wall/Mast Mount – Side with VGA-PEND-WPLATE
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
3a	Wall Mount – Back with power supply
4	Pipe Mount
5	In-ceiling Mount – Front
6	In-ceiling Mount – Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

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**BOSCH**  
Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

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engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable.

Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount <small>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</small>	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

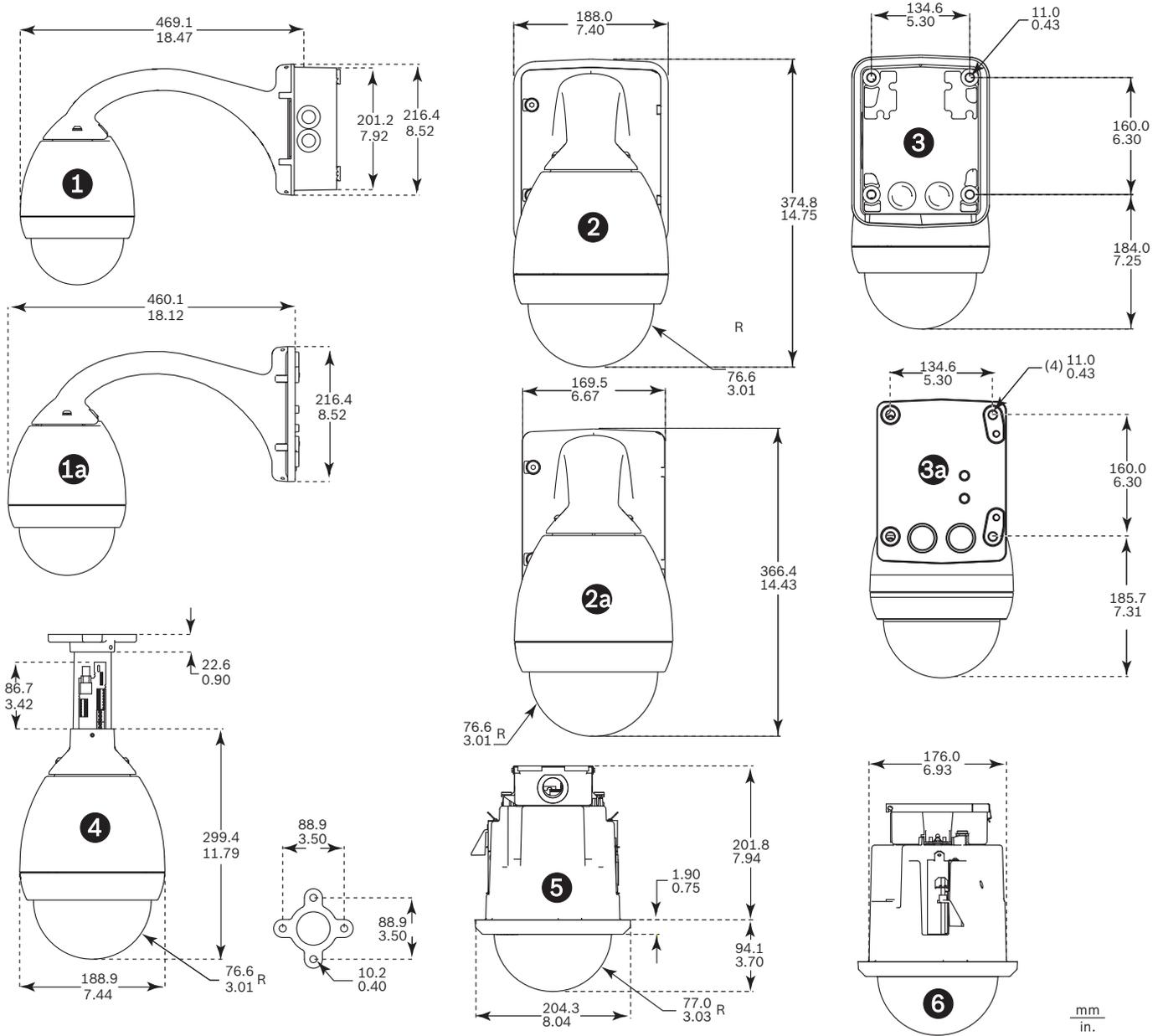
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to -60°C (-76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

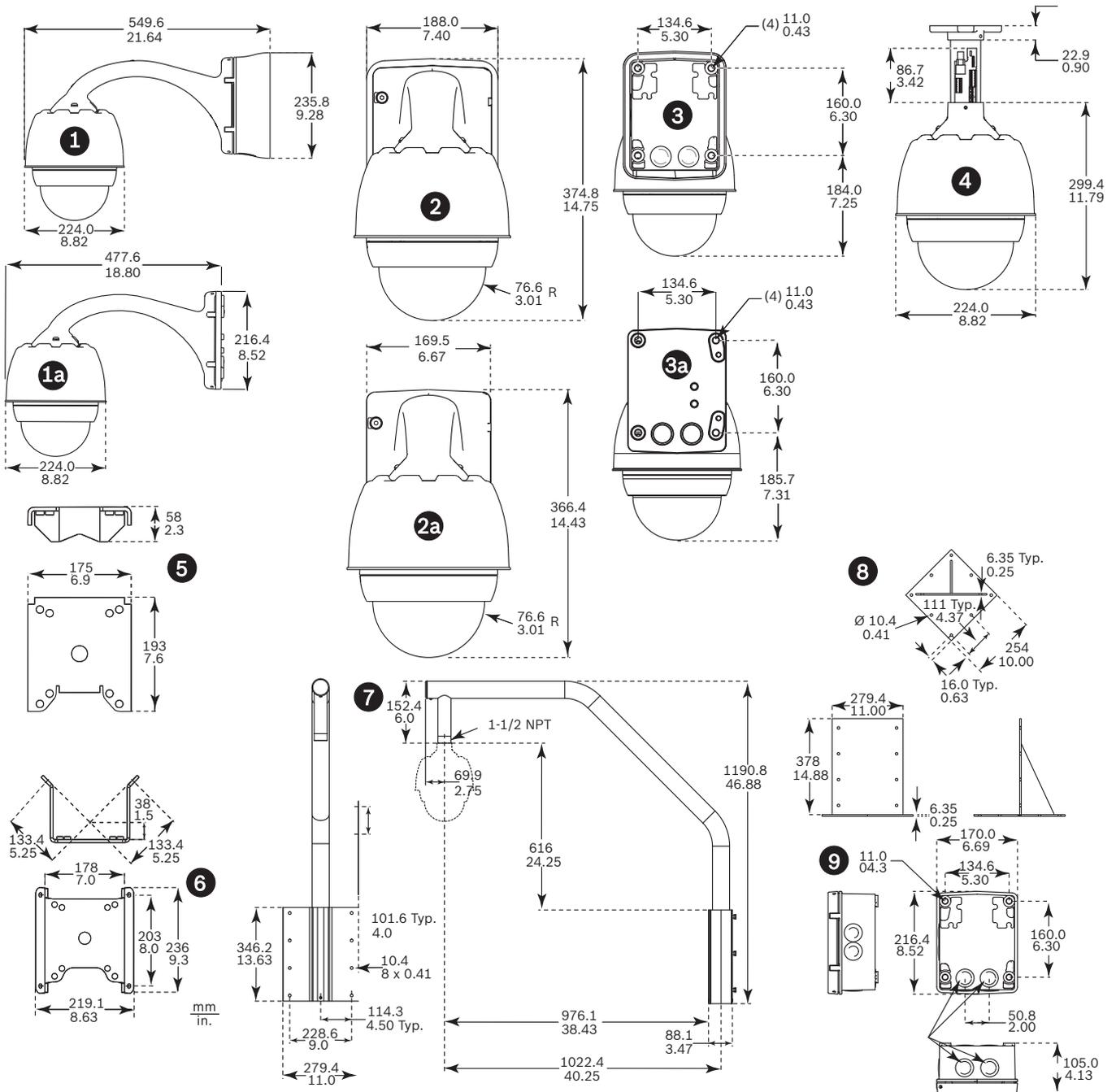


Indoor System Dimensions

Reference	Description
1	Wall Mount – Side with power supply
1a	Wall/Mast Mount – Side with VGA-PEND-WPLATE
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
3a	Wall Mount – Back with power supply
4	Pipe Mount
5	In-ceiling Mount – Front
6	In-ceiling Mount – Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

www.boschsecurity.com



**BOSCH**  
Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

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engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable. Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F 1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

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RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount (VG4-A-9543 Pipe Mount Cap required. Available separately.)	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

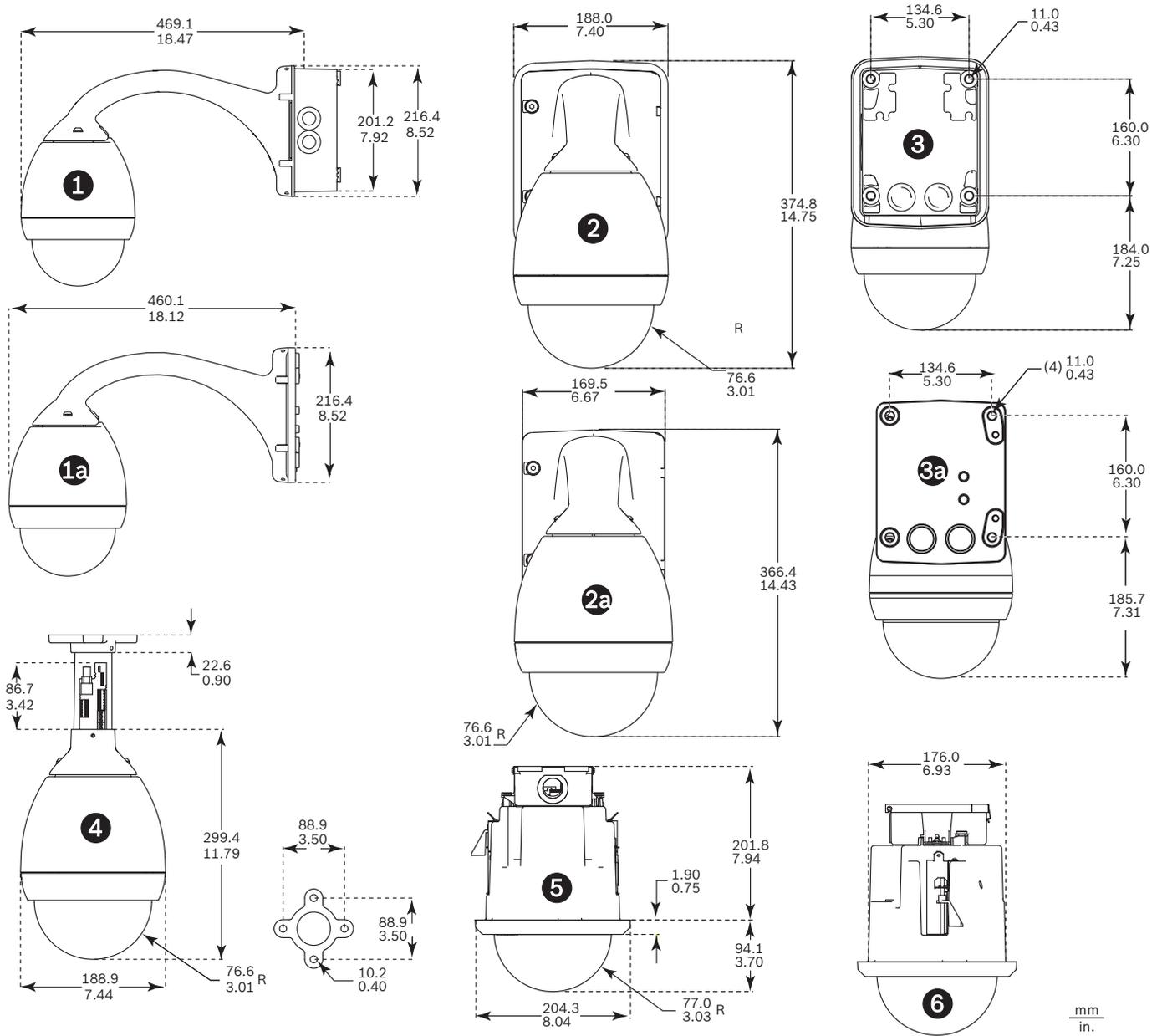
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

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<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to -60°C (-76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

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Dimensions: Indoor AutoDomes

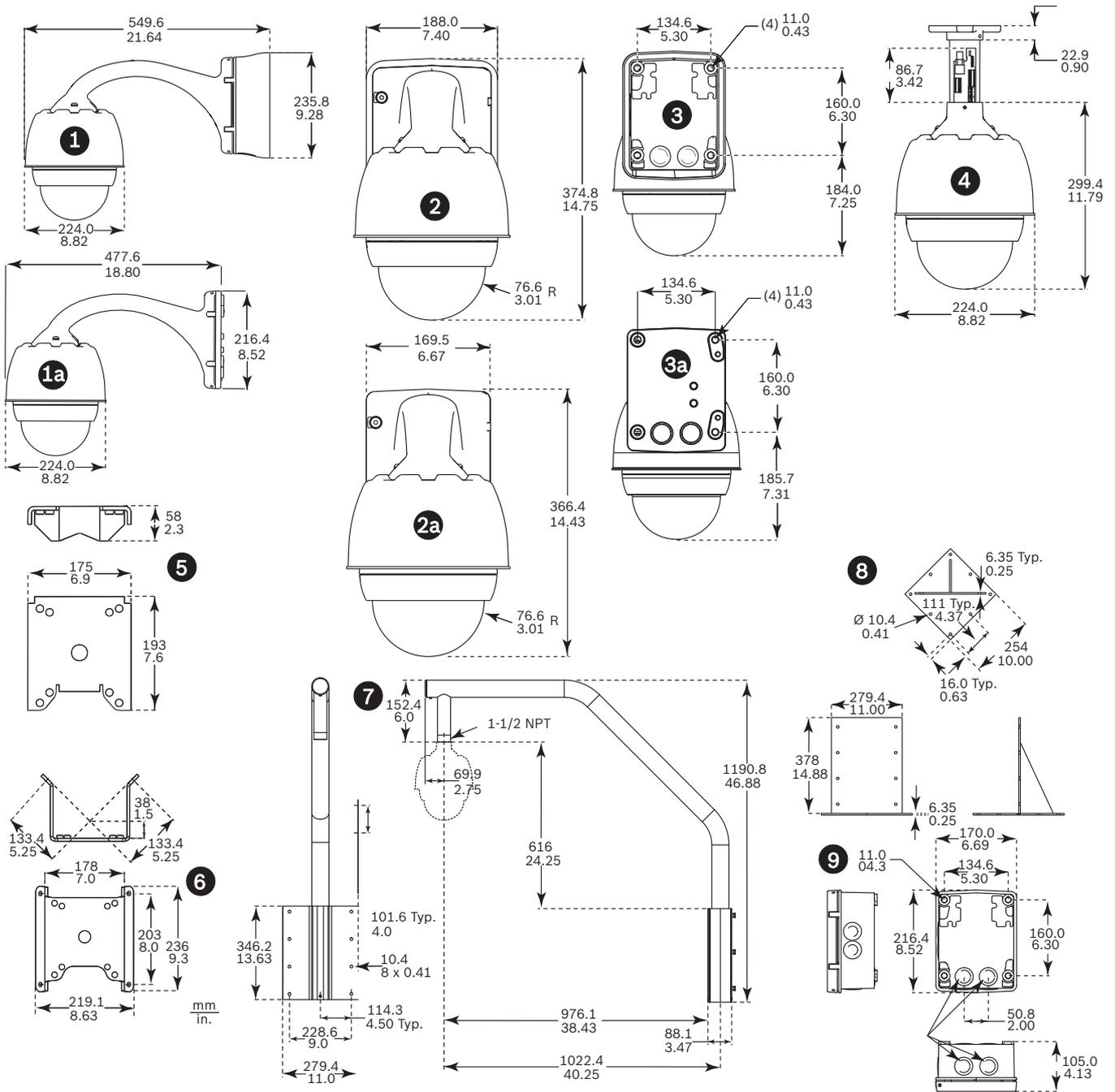


Indoor System Dimensions

Reference	Description
1	Wall Mount – Side with power supply
1a	Wall/Mast Mount – Side with VGA-PEND-WPLATE
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
3a	Wall Mount – Back with power supply
4	Pipe Mount
5	In-ceiling Mount – Front
6	In-ceiling Mount – Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

1	Wall Mount - Side with power supply and trim skirt
1a	Wall/Mast Mount - Side with VGA-PEND-WPLATE
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
3a	Wall Mount - Back with power supply
4	Pipe Mount

5	Mast Mount
6	Corner Mount
7	Roof Mount
8	Roof Mount Adapter
9	Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble  
Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble  
Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble  
Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

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Video | AutoDome 600 Series Analog PTZ Camera

# AutoDome 600 Series Analog PTZ Camera

www.boschsecurity.com



**BOSCH**  
Invented for life



- ▶ Choice of 550 TVL 36x or 28x day/night cameras with 12x digital zoom and wide dynamic range
- ▶ Progressive scan provides smooth and clear images when viewing details in a moving image
- ▶ Sodium Vapor White Balance mode restores objects to their original color
- ▶ AutoTrack II automated motion tracking
- ▶ Advanced privacy masking

The AutoDome 600 Series is an easy to install PTZ camera that delivers superb video in all indoor and outdoor applications. The camera features day/night functionality for high quality images in low light conditions. This discrete, high-speed dome camera ensures reliable, uncompromised functionality in diverse environments across various applications.

### AutoDome 600 Series highlights

The AutoDome delivers state-of-the-art technology and features that far exceed other PTZ cameras. The cameras achieve a high horizontal resolution of 550 TV lines enabling the reproduction of clear and detailed images.

#### Wide Dynamic Range

The AutoDome features Wide Dynamic Range (WDR) technology that allows for the capture of clear images from both bright and dark areas in the same frame. WDR ensures that bright areas are not saturated and that dark areas are not too dark.

#### Progressive scan

The AutoDome camera is ideally suited for moving imaging applications. The progressive scan technology incorporated into the camera provides smooth and clear images when viewing images from a moving camera.

### Sodium vapor lamp white balance

The AutoDome is an exceptional performer when shooting under a sodium vapor lamp (a street lamp or tunnel lamp, for example). Images under these conditions may have a yellowish tint, which may make identification difficult. In the Sodium Vapor White Balance mode, the AutoDome automatically compensates for the light from a sodium vapor lamp to restore objects to their original color.

### System Overview

The AutoDome 600 Series offers variable pan and tilt speeds, and the AutoPivot feature ensures optimal camera control and viewing at all zoom levels. These high-performance zoom autofocus cameras incorporate the latest digital imaging technology with excellent sensitivity and resolution. With 99 user-defined presets as well as tour and AutoPan modes, The AutoDome 600 Series is not small on features. The AutoDome 600 Series adds real intelligence to your video surveillance applications. Equipped with AutoTrack II, Bosch's award-winning motion tracking software, built-in image stabilization, motion detection, and a sophisticated alarm handling "rules"

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engine, the AutoDome 600 Series incorporates advanced, intelligent video features unmatched by any other camera system.

The AutoDome 600 Series supports standard and optional video and data transmission methods, including Bilinx (over coax and UTP) and fiber optic. Remote control, configuration, and firmware updates can also be performed over these cables, offering you unparalleled control of your cameras. Cable compensation provides extended coaxial and UTP distance runs while preventing the image quality degradation caused by signal losses from long cable lengths.

### Functions

The following are some of the features that make the AutoDome 600 Series the most flexible PTZ dome camera systems in the security industry.

#### High-performance PTZ day/night cameras

Image control and quality are integral aspects of any PTZ dome camera, and the AutoDome delivers. The AutoDome 600 Series camera has a 1/4-in. CCD sensor, with 4CIF/D1 resolution and sensitivity to below 1.0 lux and is available with a choice of 28x and the industry-leading 36x optical zoom lens, and all 600 Series systems offer a full 12x digital zoom.

Both camera options provide 550 TVL of horizontal resolution for outstanding clarity and image detail. The cameras also incorporate technology that dramatically improves the dynamic range by 128 times. Also known as WDR (wide-dynamic range), it results in clear image reproduction in extreme high-contrast environments. The AutoScaling (proportional zoom) and AutoPivot (automatically rotates and flips the camera) features ensure optimal control.

Day/night capabilities and outstanding sensitivity make AutoDome 600 Series cameras exceptional performers in all lighting conditions. In low light, these cameras automatically switch from color to monochrome by removing the IR filter to boost the infrared illumination sensitivity, while maintaining superior image quality. For operation in the darkest conditions, the SensUp control feature automatically reduces the shutter speed to as little as one second. This increases sensitivity by more than 50 times.

#### Accurate control and positioning

With super-quick, 360° per-second pan and 100° per-second tilt speeds; the AutoDome 600 Series outperforms other domes in its class. The 600 Series supports 99 pre-positions and two styles of Guard Tours: Preset and Record/Playback. The preset tour has capability for up to 99 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 AutoDome 600 Series also provides support for two recorded tours, which have a combined 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. Supported menu languages include: English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish.

#### AutoTrack II

Bosch introduced the industry's first automated motion tracking system, and now we've made this award-winning technology even better. The AutoDome 600 Series contains an advanced DSP that provides real-time video processing for incredibly smooth object tracking.

AutoTrack II utilizes Bosch's unique "virtual masking" technology. These "invisible" masks are created to act just like privacy masks, except that only the AutoTrack can see them – and it knows to ignore any motion behind them. This enables the AutoTrack to ignore extraneous background motion, such as a tree blowing in the wind, making it ideal for both indoor and outdoor applications.

#### Video motion detection (VMD)

With AutoDome, you can create a "region of interest" within a preset position where motion is to be detected. The AutoDome 600 Series supports a total of 10 individual regions of interest (one per pre-position). VMD also takes advantage of virtual masking to ignore areas of unwanted motion.

#### Image stabilization

As PTZ cameras continue to improve their optical zoom capabilities, image stabilization becomes critical to eliminate movement caused by unstable camera mounts. A mere quarter-inch of movement of the camera mount can shift the field of view by more than 20 feet when the camera is zoomed to a high value. This can render images unusable.

Image stabilization algorithms included with the AutoDome 600 Series reduces camera shake in both the vertical and horizontal axis, resulting in exceptional image clarity (pixel displacement up to +/- 10% for frequencies up to 10 Hz). Bosch's unique image stabilization solution does not reduce camera sensitivity, unlike competitive systems.

#### Alarm management

The AutoDome 600 Series takes alarm handling to new levels of flexibility and power.

#### Inputs and outputs

The AutoDome 600 Series can handle seven alarm inputs, two of which are analog inputs that can be programmed for EOLR (End-of-Line Resistor) supervision whenever true security applications require it. These inputs enable the dome to "sense" if the contact is opened or closed and whether the wire has been tampered with (either by being cut or shorted). In addition, the AutoDome 600 Series supports four outputs: one relay rated at two amps

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and three additional open collectors for driving external devices. Each can be programmed individually.

**Advanced alarm control**

The AutoDome 600 advanced alarm control 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 keyboard commands to perform advanced dome functions. There is virtually no limit to the number of combinations that you can program, making the standard software in the dome ready for any application.

**Superior privacy masking**

The AutoDome 600 Series allows for a total of 24 individual privacy masks, with up to eight displayed in the same scene. Unlike conventional privacy masks, these can each be programmed with three, four, or even five corners to cover more complex shapes. Each mask changes size and shape smoothly and quickly – ensuring that the covered object cannot be seen. You also have a choice of colors: black, white, and blurred. Blurred comes in handy when privacy is an issue, but determining the presence of motion is still required.

**Fiber Optic Kit**

The VGA-FIBER-AN (multimode) is an analog, fiber optic conversion kit for use with 100 and 600 Series AutoDomes. This module is a video transmitter/data receiver modules designed to be mounted directly into an AutoDome power supply box.

**Ease of installation and servicing**

The AutoDome 600 Series 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.

AutoDome in-ceiling housings provide IP54 protection (with an optional kit) and are rated IK 8 (IEC 62262). These housings feature an impact-resistant polycarbonate rugged bubble to protect your camera from vandalism. The rugged bubble can withstand impacts equivalent to a 4.5 kg (10 lb) weight dropped from a height of 3 m (10 ft).

AutoDome pendant housings (indoor and outdoor) are rated to provide IP 66 protection and come fully assembled with a sunshield and ready for wall or pipe applications with the proper mounting hardware (purchased separately). In addition, the pendant housing comes equipped with a low-impact, high-resolution acrylic bubble for enhanced image clarity. Outdoor Pendant housings provide an operating temperature range down to -40°C (-40°F). The optional “XT” extreme temperature kit allows an AutoDome to operate in temperatures down to -60°C (-76°F), ensuring reliable operation in even the harshest environments.

**Note:** Bosch offers a full complement of hardware and accessories (as a separate purchase) for corner, mast, roof, pipe, and in-ceiling applications, which allow the AutoDome to be easily adapted to individual site requirements.

**Easy upgrades**

Bosch’s innovative software, the Configuration Tool for Imaging Devices (CTFID), allows operators or technicians to control the PTZ, change camera settings, and even update firmware from virtually anywhere without need for additional wiring. The AutoDome 600 Series has advanced built-in diagnostics to simplify service and minimize downtime. Using the On Screen Display (OSD), a technician can quickly and easily check critical parameters (such as internal temperature and input voltage level) to verify that the dome is functioning within acceptable operating limits. If video is not present, a local inspection of three diagnostic LEDs at the camera site can identify the presence of video and control data.

**Certifications and Approvals**

Electromagnetic Compatibility (EMC)	Complies with FCC Part 15, ICES-003, and CE regulations, including EN50130-4 and EN50121-4
Product Safety	Complies with CE regulations, UL, CSA, EN, and IEC Standards
Environmental	In-ceiling: IP54 (with optional VGA-IP54K-IC kit), Plenum rated Pendant: IP66
Impact Resistance	In-ceiling: IK 8

**Parts Included**

**In-ceiling**

1	Fully-assembled in-ceiling housing
1	Polycarbonate bubble, clear or tinted
1	Interface box
1	Coaxial cable with ferrite

**Indoor Pendant**

1	Fully-assembled indoor pendant housing
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Outdoor Pendant**

1	Fully-assembled outdoor pendant housing with sunshield
1	Acrylic bubble, clear
1	Coaxial cable with ferrite

**Note:**

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1. Mounting hardware and accessories are available separately.
2. The coaxial cable with ferrite is required for pendant arm and in-ceiling mount applications. Do note use the coaxial cable with ferrite for pipe or roof mount applications.

**Technical Specifications**

**Camera 36x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	PAL: Approx. 440,000; 752(H) x 582(V) NTSC: Approx. 380,000; 768 (H) x 494 (V)	
Lens	36x Zoom (3.4–122.4 mm) F1.6 to F4.5	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	4.0 sec.	4.0 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	2.7 sec.	2.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE</li> </ul>	6.0 sec.	6.2 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.1 sec.	2.3 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	1.7° to 57.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL (NTSC, PAL) typical	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>1</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		
SensUp Off	0.66 lux	1.4 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.04 lux	0.1 lux
<b>Night Mode</b>		
SensUp Off	0.104 lux	0.209 lux

SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0052 lux	0.0103 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

1. Unless otherwise stated, test conditions are: F1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Camera 28x Day/Night**

Imager	1/4 in.-type Exview HAD CCD (progressive scan)	
Effective Picture Elements	NTSC: 380,000 PAL: 440,000	
Lens	28x Zoom (3.5–98.0 mm) F1.35 to F3.7	
Zoom Movement Speed	NTSC	PAL
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking ON</li> </ul>	2.5 sec.	2.5 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Optical TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking ON</li> </ul>	4.5 sec.	4.9 sec.
<ul style="list-style-type: none"> <li>• Optical WIDE / Digital TELE – Focus Tracking OFF</li> </ul>	1.7 sec.	1.7 sec.
<ul style="list-style-type: none"> <li>• Digital WIDE / Digital TELE</li> </ul>	2.0 sec.	2.5 sec.
Focus	Automatic with manual override	
Iris	Automatic with manual override	
Field of View	2.1° to 55.8°	
Video Output	1.0 Vp-p, 75 Ohm	
Gain Control	Auto/Manual/Max. (-3 dB to 28 dB, 2 dB steps)	
Aperture Correction	Horizontal and vertical	
Digital Zoom	12x	
Horizontal Resolution	550 TVL	
Synchronization	Line-Lock (-120° to 120° vertical phase adjust) or internal crystal	
<b>Sensitivity (typical) <sup>2</sup></b>	<b>30 IRE</b>	<b>50 IRE</b>
<b>Day Mode</b>		

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SensUp Off	0.33 lux	0.66 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.02 lux	0.04 lux
<b>Night Mode</b>		
SensUp Off	0.066 lux	0.166 lux
SensUp On (NTSC: 1/4s, 15X; PAL 1/3s, 16.7X)	0.0026 lux	0.0082 lux
Electronic Shutter Speed	1/1 to 1/10,000 sec., 22 steps	
Wide Dynamic Range (WDR)	92 dB (50 dB with WDR Off)	
Signal-to-Noise Ratio (SNR)	>50 dB	
White Balance	2000 K to 10,000 K	

2. Unless otherwise stated, test conditions are: F 1.6; shutter = NTSC 1/60s, PAL 1/50s; max AGC; no bubble. Clear bubble adds 0.09 f-stop loss (90% light transmission). Tinted bubble adds 0.47 f-stop loss (60% light transmission).

**Mechanical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Pan Range	360° cont.	360° cont.	360° cont.
Tilt Angle	1° above horizon	18° above horizon	18° above horizon
Variable Speed	0.1°/s-120°/s	0.1°/s-120°/s	0.1°/s-120°/s
Pre-position Speed	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s	Pan: 360°/s Tilt: 100°/s
Preset Accuracy	± 0.1° typ.	± 0.1° typ.	± 0.1° typ.

**Electrical**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Input Voltage	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz	21-30 VAC 50/60 Hz
Power Consumption (typical)	15 W / 27 VA	15 W / 27 VA	51 W / 55 VA <sup>3</sup>

3. Add 16 W if using VG4-SHTR-XT kit.

**Surge Suppression**

Protection on Video	Peak current 10 kA (Gas Tube Arrester)
Protection on Biphase	Peak current 10 A, peak power 300 W (8/20 μs)
Protection on RS-232/485	ESD protection ± 15 KV human body model

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 Outputs	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)

**Fiber Optic Kits**

VGA-FIBER-AN	
Description	Multimode Fiber Optic Module
Compatible Receiver	LTC 4629 Series
Optical Fiber Compatibility	50/125 μm, 62.5/125 μm, low loss multimode glass fiber, rated for a minimum system bandwidth of 20 MHz
Max. Distance	4.0 km (2.5 miles)
Optical Budget	14 dB
Connector	One (1) ST connector
Wavelength (video/data)	850 nm / 1310 nm

**Miscellaneous**

Sectors/Titling	16 independent sectors with 20-character titles/sector
Masking	24 individually configurable privacy masks
Pre-positions	99, each with 20-character titles
Camera Setup/Control	Biphase, RS-232, RS-485, Bilinx (coax)
Communications Protocols	Biphase, Bilinx, Pelco P, and Pelco D
Guard Tours	Two (2) types of tours: <ul style="list-style-type: none"> <li>Recorded tours – two (2), total duration 15 minutes</li> <li>Preset tour – one (1), consisting of up to 99 scenes, consecutively and (1) customized up to 99 scenes</li> </ul>
Supported Languages	English, Czech, Dutch, French, German, Italian, Polish, Portuguese, Russian and Spanish

**Cable Compensation**

	With Pre-comp OFF	With Pre-comp ON
Max Distance		
RG-59/U	1000 ft (300 m)	2000 ft (600 m)
RG-6/U	1500 ft (450 m)	3000 ft (900 m)

6 | AutoDome 600 Series Analog PTZ Camera

RG-11/U	2000 ft (600 m)	4000 ft (1200 m)
Cat 5/UTP (Passive receiver)	750 ft (225 m)	1500 ft (450 m)

**User Connections**

Power, Camera	21-30 VAC, 50/60 Hz
Power, Heater	21-30 VAC, 50/60 Hz
Control Data	Biphase ± RS-232 RX/TX or RS-485 ± - optional control data (dip switch selectable)
Video	BNC/UTP
Audio Line In	9 K Ohm typ, 5.5 Vp-p max

EOLR Alarm Inputs (2)	Programmable for “normally open”, “normally closed”, “normally open-supervised”, “normally closed-supervised”
Alarm Inputs (5)	Programmable for “normally open” or “normally closed”
Relay Out (1)	Dry contact output rating: 2 A @ 30 VAC
Open Collector Outputs (3)	32 VDC@150 ma max.

**Environmental**

	In-Ceiling	Indoor Pendant	Outdoor Pendant
Design Rating	IP54, <sup>4</sup> Plenum rated	IP66 <sup>5</sup>	IP66 <sup>5</sup>
Operating Temp.	-10°C to 40°C (14°F to 104°F)	-10°C to 40°C (14°F to 104°F)	-40°C to 50°C (-40°F to 122°F) with XT kit: -60°C to 50°C (-76°F to 122°F)
Storage Temp.	-40°C to 60°C (-40°F to 140°F)	-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 90% relative, non-condensing	0% to 100% relative, condensing

4. With optional VGA-IP54K-IC kit.

5. Meets requirements for NEMA 4X certification with use of a polycarbonate bubble. Meets requirements for NEMA 4X, except impact test, with use of an acrylic bubble.

**Construction**

Dimensions	See dimensional drawings
Weight	
• In-ceiling	2.66 kg (5.86 lb)
• Indoor Pendant	2.88 kg (6.3 lb)

• Outdoor Pendant	3.32 kg (7.3 lb)
Bubble Size	153.1 mm diameter (6.03 in.)
Construction Material	
• Housing	Cast aluminum
• Bubble	Pendant: Acrylic (high-resolution) In-ceiling: Polycarbonate (rugged)
Color	White (RAL 9003)
Standard Finish	Powder coated, sand finish

**Mounts/Accessories**

**Bubbles**

**In-ceiling**

Clear rugged polycarbonate	VGA-BUBBLE-CCLR
Tinted rugged polycarbonate	VGA-BUBBLE-CTIR

**Pendant**

Clear rugged polycarbonate	VGA-BUBBLE-PCLR
Tinted rugged polycarbonate	VGA-BUBBLE-PTIR
Clear high-resolution acrylic	VGA-BUBBLE-PCLA
Tinted high-resolution acrylic	VGA-BUBBLE-PTIA

**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 AutoDome 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
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**Pendant Roof Mounts**

Roof (Parapet) Mount <small>(VG4-A-9543 Pipe Mount Cap required. Available separately.)</small>	VGA-ROOF-MOUNT
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**Optional Mounting Plates for Roof Mounts**

Flat Roof Adapter for Parapet Mount	LTC 9230/01
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**In-ceiling Support Kits**

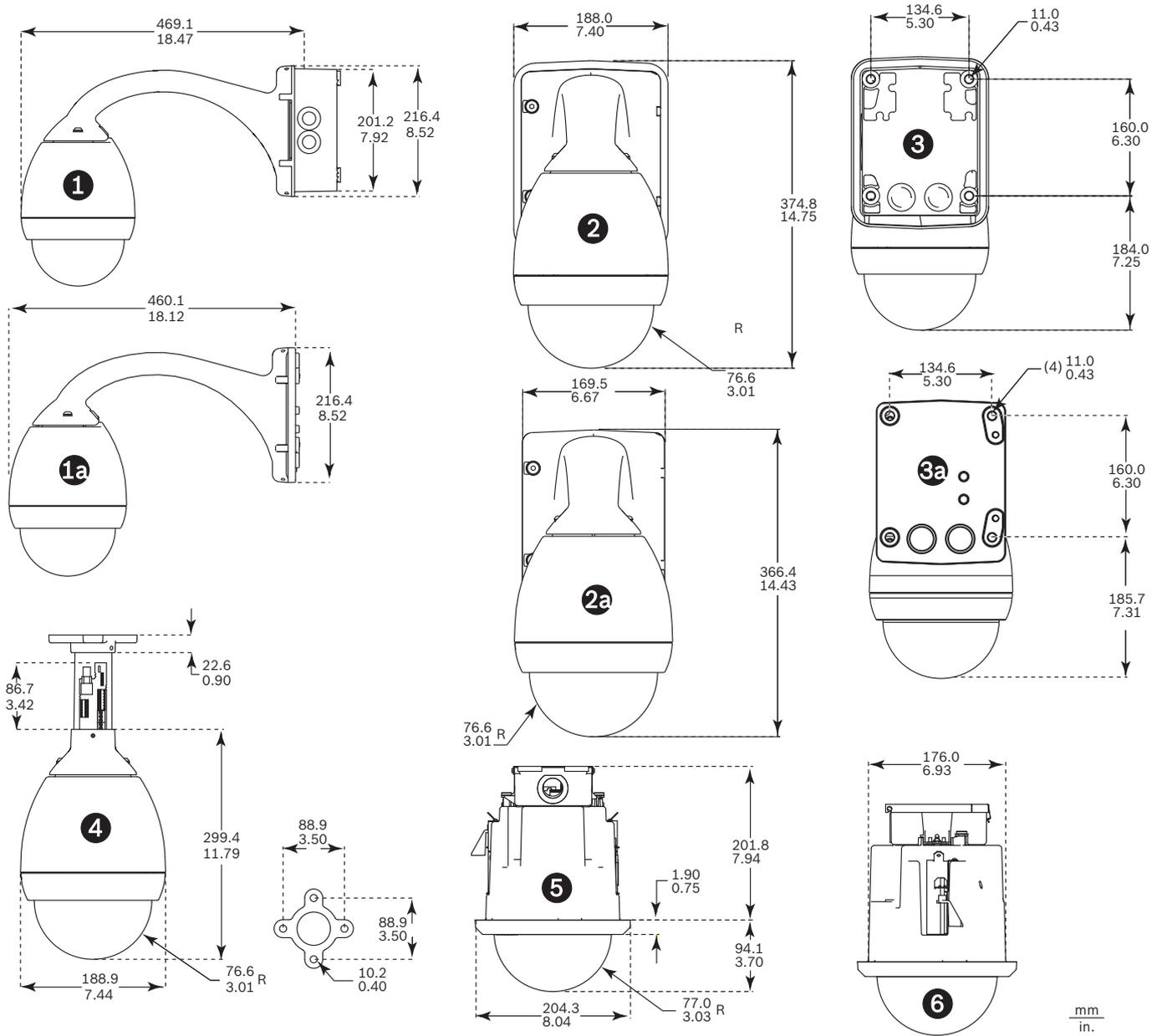
Bracket for suspended or drop ceilings	VGA-IC-SP
Gasket kit for IP54 certification	VGA-IP54K-IC

**7 | AutoDome 600 Series Analog PTZ Camera**

<b>Power Supplies</b>	
Outdoor Power Supply Box, no transformer	VG4-A-PSU0
Outdoor Power Supply Box (120/230 VAC Transformer)	VG4-A-PSU1 / VG4-A-PSU2
Extended temp heater module extends temperature range to -60°C (-76°F) for outdoor pendants only	VG4-SHTR-XT
Fiber Optic Kit	VGA-FIBER-AN

8 | AutoDome 600 Series Analog PTZ Camera

Dimensions: Indoor AutoDomes

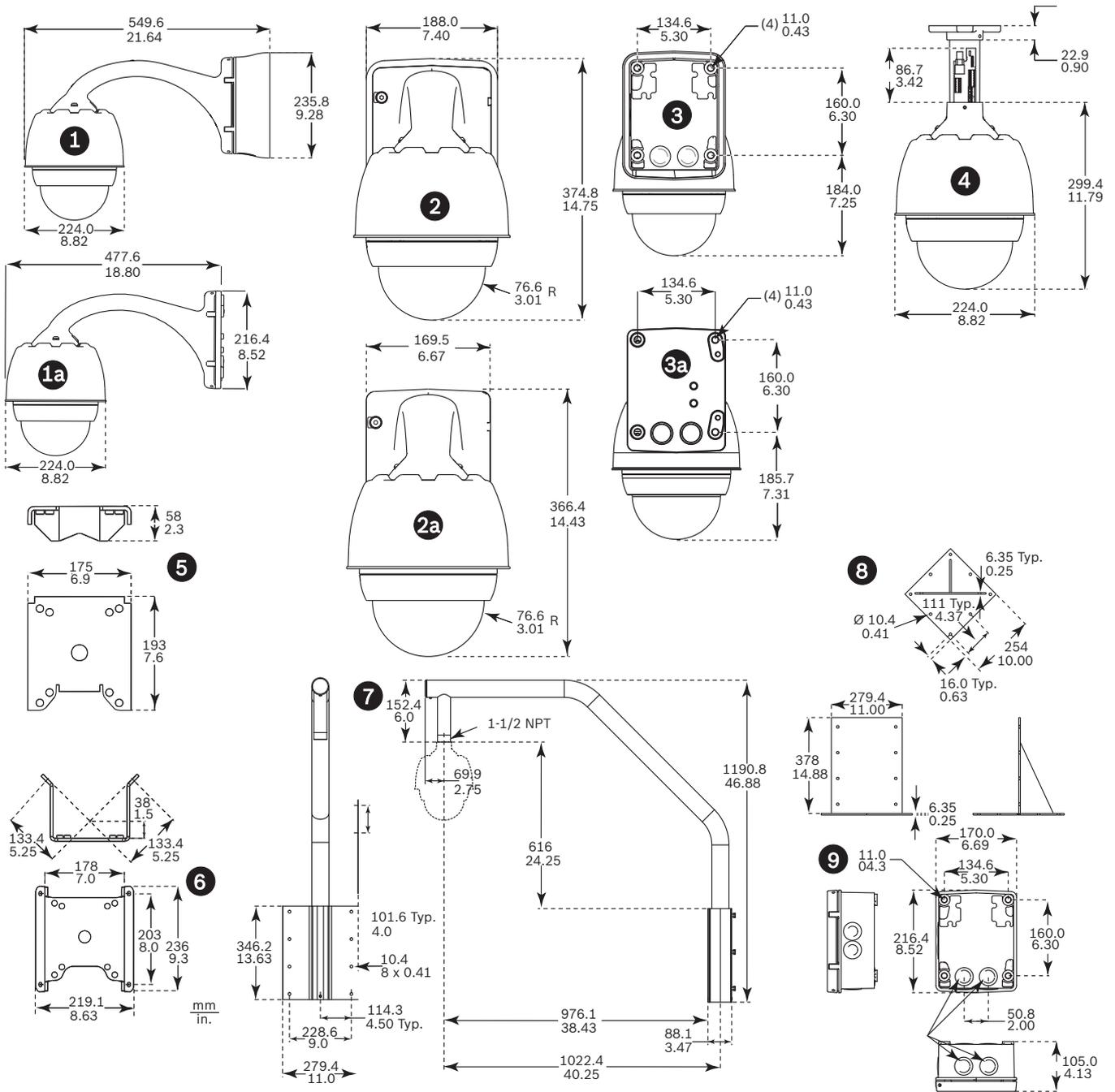


Indoor System Dimensions

Reference	Description
1	Wall Mount - Side with power supply
1a	Wall/Mast Mount - Side with VGA-PEND-WPLATE
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
3a	Wall Mount - Back with power supply
4	Pipe Mount
5	In-ceiling Mount - Front
6	In-ceiling Mount - Side

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Dimensions: Outdoor AutoDomes



Outdoor System Dimensions

Reference Description

- 1 Wall Mount – Side with power supply and trim skirt
- 1a Wall/Mast Mount – Side with VGA-PEND-WPLATE
- 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
- 3a Wall Mount – Back with power supply
- 4 Pipe Mount

- 5 Mast Mount
- 6 Corner Mount
- 7 Roof Mount
- 8 Roof Mount Adapter
- 9 Power Supply for Pipe and Roof Mounts

### Ordering Information

#### **VG5-613-CCS AutoDome 600 Series 28x PAL In-ceiling Camera**

Analog 28x PAL camera, in-ceiling housing with a clear polycarbonate bubble

Order number **VG5-613-CCS**

#### **VG5-623-CTS AutoDome 600 Series 28x NTSC In-ceiling Camera**

Analog 28x NTSC camera, in-ceiling housing with a tinted polycarbonate bubble

Order number **VG5-623-CTS**

#### **VG5-613-ECS AutoDome 600 Series 28x PAL Outdoor Pendant Camera**

Analog 28x PAL camera, outdoor pendant housing with a clear acrylic bubble

Order number **VG5-613-ECS**

#### **VG5-613-PCS AutoDome 600 Series 28x PAL Indoor Pendant Camera**

Analog 28x PAL camera, indoor pendant housing with a clear acrylic bubble

Order number **VG5-613-PCS**

#### **VG5-614-ECS AutoDome 600 Series 36x PAL Outdoor Pendant Camera**

Analog 36x PAL camera, outdoor pendant housing with a clear acrylic bubble

Order number **VG5-614-ECS**

#### **VG5-614-PCS AutoDome 600 Series 36x PAL Indoor Pendant Camera**

Analog 36x PAL camera, indoor pendant housing with a clear acrylic bubble

Order number **VG5-614-PCS**

#### **VG5-623-ECS AutoDome 600 Series 28x NTSC Outdoor Pendant Camera**

Analog 28x NTSC camera, outdoor pendant housing with a clear acrylic bubble

Order number **VG5-623-ECS**

#### **VG5-623-PCS AutoDome 600 Series 28x NTSC Indoor Pendant Camera**

Analog 28x NTSC camera, indoor pendant housing with a clear acrylic bubble

Order number **VG5-623-PCS**

#### **VG5-624-ECS AutoDome 600 Series 36x NTSC Outdoor Pendant Camera**

Analog 36x NTSC camera, outdoor pendant housing with a clear acrylic bubble

Order number **VG5-624-ECS**

#### **VG5-624-PCS AutoDome 600 Series 36x NTSC Indoor Pendant Camera**

Analog 36x NTSC camera, indoor pendant housing with a clear acrylic bubble

Order number **VG5-624-PCS**

### Accessories

#### **VG4-A-PA0 Pendant Arm Mount**

Pendant arm mount with power supply box for a AutoDome Series cameras, 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 AutoDome Series cameras 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 AutoDome Series cameras 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 a for an AutoDome Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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 Series pendant arm or a VEI-30 or NEI-30 Dinion Infrared 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-IP54K-IC IP54 In-ceiling Gasket Kit for AutoDome 100/600 Series**

Gasket kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts required for IP54 environmental rating  
Order number **VGA-IP54K-IC**

**VGA-IC-SP In-ceiling Support Kit for AutoDome 100/600 Series**

Suspended ceiling support kit for AutoDome 100 and 600 Series AutoDome In-ceiling mounts  
Order number **VGA-IC-SP**

**VG4-A-PSU0 24 VAC Power Supply Unit**

24 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU0**

**VG4-A-PSU1 120 VAC Power Supply Unit**

120 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU1**

**VG4-A-PSU2 230 VAC Power Supply Unit**

230 VAC, 100 W, NEMA-rated, white, for an AutoDome Series camera  
Order number **VG4-A-PSU2**

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

Order number **VGA-SBOX-COVER**

**VGA-FIBER-AN Analog Multimode Fiber Optic Kit**

Analog multimode video transmitter/data receiver fiber optic kit  
Order number **VGA-FIBER-AN**

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

Trim skirt for the following AutoDome 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  
Order number **VG4-A-TSKIRT**

**VG4-SHTR-XT Heating Module**

Extended temperature heater module extends temperature range to -60°C (-76°F) for EnviroDomes and AutoDome 600 Series Outdoor Pendants only  
Order number **VG4-SHTR-XT**

**VGA-BUBBLE-CCLR Clear Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CCLR**

**VGA-BUBBLE-CTIR Tinted Rugged Bubble for an In-ceiling Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-CTIR**

**VGA-BUBBLE-PCLR Clear Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PCLR**

**VGA-BUBBLE-PTIR Tinted Rugged Bubble for a Pendant Housing**

Impact resistant polycarbonate bubble  
Order number **VGA-BUBBLE-PTIR**

**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**

**VG4-MTRN-C Alternative Protocol Communications Module**

Supports the American Dynamics (AD) Manchester and the American Dynamics (AD) Sensormatic RS-422 protocols.  
Order number **VG4-MTRN-C**

**Software Options****VP-CFGSFT Configuration Tool for Imaging Devices**

Camera configuration software for use with Bilinx cameras  
Order number **VP-CFGSFT**

**Represented by:****Americas:**

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Fairport, New York, 14450, USA  
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Fax: +1 585 223 9180  
security.sales@us.bosch.com  
www.boschsecurity.us

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Campinas, Sao Paulo, Brazil  
Phone: +55 19 2103 2860  
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al.securitysystems@bosch.com  
www.boschsecurity.com



# DVR 11

## H.264 Digital Video Recorder



### OVERVIEW

The TruVision® DVR 11 (TVR 11) is a cost-effective, digital video recorder with 4-, 8- or 16-channel capabilities. It utilizes H.264 video compression technology to deliver real-time recording per channel at a CIF resolution.

A built-in Web browser and access via mobile apps allow you to stay connected remotely via any Web-enabled device. Login via smartphone or tablet to configure, view, search, archive and monitor facilities, people or valuables. Compatible with TruVision Navigator, the DVR 11 integrates easily with existing systems and features a familiar, user-friendly interface. Start-up Wizards make installation and DDNS setup quick and simple.

Internal storage from 500GB up to 4TB is available. In addition, video can also be archived via USB memory sticks. For user-friendly, remote management and reliable recording, the DVR 11 represents a comprehensive solution to fit your needs and budget.

### STANDARD FEATURES

- H.264 compression technology
- 4-, 8- or 16-channel real-time recording at CIF resolution
- Mobile apps allow you to connect remotely via smartphone or tablet to keep an eye on facilities, people or valuables
- Text Insertion via ProBridge for POS/ATM applications
- Start-up Wizards for quick and easy installation, search and playback
- PTZ and dome camera control via mouse, front panel joystick and IR remote controller
- E-mail notification upon alarm with attached images
- Triple monitor support - Monitor A, Monitor B and Spot Monitor
- Fully compatible with TruVision Navigator software
- Integrates easily with existing systems
- Familiar, user-friendly interface
- Features up to 4TB internal storage
- Time lapse, event and alarm recording settings
- One-channel reverse video playback for easy search of recorded video
- HDMI output for high-quality local viewing
- Compact chassis for 4-channel models
- Simple one-button archive video via USB 2.0, CD/DVD\* or download allows convenient remote access to archived video

\*11D Models Only

# DVR 11

H.264 Digital Video Recorder

North America  
T 855-286-8889

Asia  
T 852-2907-8108

Australia  
T 61-3-9239-1200

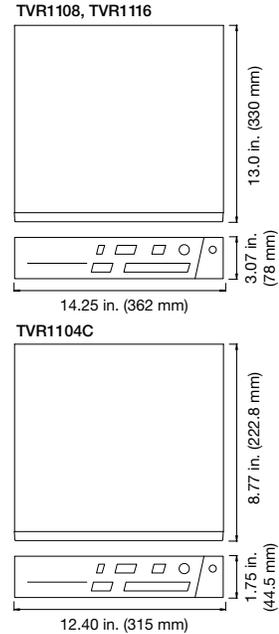
Europe  
T 32-2-725-11-20

Latin America  
T 561-998-6114

## Specifications

Model	TVR1104C	TVR1108	TVR1116	
<b>Video/Audio Input</b>	Video Compression	H.264		
	Analog Video Input	4-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive	8-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive	16-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive
	Audio Compression	G711		
	Audio Input	4-channel, RCA, (2.0 Vp-p, 1 Ω)		
<b>Video/Audio Output</b>	Two-Way Audio	1-ch (Reduplicated with Audio input 1), RCA (2.0 Vp-p, 1 kΩ)		
	HDMI Output	1-channel, resolution: 1920x1080P/60Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz		
	VGA Output	1-channel, resolution: 1920x1080P/60Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz		
	CVBS Output	1-channel, BNC, (1.0 Vp-p, 75 Ω), resolution: PAL: 704x576, NTSC: 704x480		
	Video Loop Out	n/a	8-channel	16-channel
	Encoding Resolution	4CIF/2CIF/CIF/QCIF		
	Frame Rate	8 fps @ 4CIF, 15 fps @ 2CIF, 25 fps (P)/30 fps (N) @ CIF/QCIF; Total Frame Rate: 120 fps		
	Video Bit Rate	32 Kbps ~ 3072 Kbps, or user-defined (Max. 3072 Kbps)		
	Audio Output	1-ch, RCA		
	Audio Bit Rate	64 Kbps		
	Dual-Stream	Support   (Sub-stream at CIF: 6 fps, QCIF: 25 fps (P)/30 fps (N))		
	Stream Type	Video, Video & Audio		
Playback Resolution	4CIF/2CIF/CIF/QCIF			
<b>Hard Disk</b>	Synchronous Playback	4-channel	8-channel	16-channel
	SATA	2 SATA interfaces (1 for 11C and 11D models)		
	Capacity	Up to 2TB capacity for each disk		
<b>External Interface</b>	Network Interface	1 RJ45 10M/100M Ethernet Interface		
	Serial Interface	1 RS-232 Interface (for Probridge, Challenger, Technical Support); 1 RS-485 interface (for PTZ control or KTD405 keyboard control)		
	USB Interface	2, USB 2.0		
	Alarm In	4		
	Alarm Out	1		
<b>General</b>	Power Supply	12VDC		
	Consumption (without hard disk or DVD-R/W)	≤ 15 W	≤ 20 W	≤ 30 W
	Working Temperature	-10° to 55°C		
	Working Humidity	10% ~ 90%		
	Chassis	1.5U		
	Dimensions (W x D x H)	12.40 x 8.77 x 1.75 in. (315 x 222.8 x 44.5mm)	14.25 x 13.0 x 3.07 in. (362 x 330 x 78mm)	
	Weight	≤ 8 kg (without hard disk)		
	Web Browser Support	Windows Internet Explorer version 6,7,8 and 9; Mozilla Firefox version 3.5 and above; Google Chrome version 8.0 and above		

## Dimensional Diagram



## Ordering Information

<b>TVR-1104C-500</b>	TruVision® DVR 11 Compact, H.264, 4 ch, 500GB Storage
<b>TVR-1104C-1T</b>	TruVision DVR 11 Compact, H.264, 4 ch, 1TB Storage
<b>TVR-1108-1T</b>	TruVision DVR 11, H.264, 8 ch, 1TB Storage
<b>TVR-1108-2T</b>	TruVision DVR 11, H.264, 8 ch, 2TB Storage
<b>TVR-1116-1T</b>	TruVision DVR 11, H.264, 16 ch, 1TB Storage
<b>TVR-1116-2T</b>	TruVision DVR 11, H.264, 16 ch, 2TB Storage
<b>TVR-1116-4T</b>	TruVision DVR 11, H.264, 16 ch, 4TB Storage
<b>TVR-1108D-1T</b>	TruVision DVR 11, H.264, 8 ch, 1TB Storage, DVD
<b>TVR-1108D-2T</b>	TruVision DVR 11, H.264, 8 ch, 2TB Storage, DVD
<b>TVR-1116D-1T</b>	TruVision DVR 11, H.264, 16 ch, 1TB Storage, DVD
<b>TVR-1116D-2T</b>	TruVision DVR 11, H.264, 16 ch, 2TB Storage, DVD

## TruVision™ DVR 11 storage tables

### 16-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
1TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
2TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
4TB HDD	30 fps	15 fps	8 fps	12 fps	8 fps	4 fps	10 fps	6 fps	2 fps

### 8-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
1TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
2TB HDD	30 fps	15 fps	8 fps	12 fps	8 fps	4 fps	10 fps	6 fps	2 fps

### 4-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
500GB HDD	30 fps	15 fps	8 fps	15 fps	8 fps	4 fps	10 fps	6 fps	2 fps
1TB HDD	30 fps	15 fps	8 fps	30 fps	15 fps	8 fps	20 fps	12 fps	6 fps

Storage table assumes continuous recording for all cameras at highest quality setting in NTSC video format (with audio recording off). Actual storage and frames per second (fps) may vary by application, camera type, and environmental conditions.



interlogix.com

Specifications subject to change without notice.

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212-3616 2013/06 (75097)



# DVR 11

## H.264 Digital Video Recorder



### OVERVIEW

The TruVision® DVR 11 (TVR 11) is a cost-effective, digital video recorder with 4-, 8- or 16-channel capabilities. It utilizes H.264 video compression technology to deliver real-time recording per channel at a CIF resolution.

A built-in Web browser and access via mobile apps allow you to stay connected remotely via any Web-enabled device. Login via smartphone or tablet to configure, view, search, archive and monitor facilities, people or valuables. Compatible with TruVision Navigator, the DVR 11 integrates easily with existing systems and features a familiar, user-friendly interface. Start-up Wizards make installation and DDNS setup quick and simple.

Internal storage from 500GB up to 4TB is available. In addition, video can also be archived via USB memory sticks. For user-friendly, remote management and reliable recording, the DVR 11 represents a comprehensive solution to fit your needs and budget.

### STANDARD FEATURES

- H.264 compression technology
- 4-, 8- or 16-channel real-time recording at CIF resolution
- Mobile apps allow you to connect remotely via smartphone or tablet to keep an eye on facilities, people or valuables
- Text Insertion via ProBridge for POS/ATM applications
- Start-up Wizards for quick and easy installation, search and playback
- PTZ and dome camera control via mouse, front panel joystick and IR remote controller
- E-mail notification upon alarm with attached images
- Triple monitor support - Monitor A, Monitor B and Spot Monitor
- Fully compatible with TruVision Navigator software
- Integrates easily with existing systems
- Familiar, user-friendly interface
- Features up to 4TB internal storage
- Time lapse, event and alarm recording settings
- One-channel reverse video playback for easy search of recorded video
- HDMI output for high-quality local viewing
- Compact chassis for 4-channel models
- Simple one-button archive video via USB 2.0, CD/DVD\* or download allows convenient remote access to archived video

\*11D Models Only

# DVR 11

H.264 Digital Video Recorder

North America  
T 855-286-8889

Asia  
T 852-2907-8108

Australia  
T 61-3-9239-1200

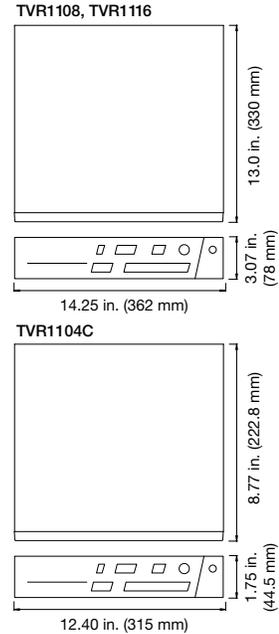
Europe  
T 32-2-725-11-20

Latin America  
T 561-998-6114

## Specifications

Model	TVR1104C	TVR1108	TVR1116	
<b>Video/Audio Input</b>	Video Compression	H.264		
	Analog Video Input	4-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive	8-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive	16-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive
	Audio Compression	G711		
	Audio Input	4-channel, RCA, (2.0 Vp-p, 1 Ω)		
	Two-Way Audio	1-ch (Reduplicated with Audio input 1), RCA (2.0 Vp-p, 1 kΩ)		
<b>Video/Audio Output</b>	HDMI Output	1-channel, resolution: 1920x1080P/60Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz		
	VGA Output	1-channel, resolution: 1920x1080P/60Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz		
	CVBS Output	1-channel, BNC, (1.0 Vp-p, 75 Ω), resolution: PAL: 704x576, NTSC: 704x480		
	Video Loop Out	n/a	8-channel	16-channel
	Encoding Resolution	4CIF/2CIF/CIF/QCIF		
	Frame Rate	8 fps @ 4CIF, 15 fps @ 2CIF, 25 fps (P)/30 fps (N) @ CIF/QCIF; Total Frame Rate: 120 fps		
	Video Bit Rate	32 Kbps ~ 3072 Kbps, or user-defined (Max. 3072 Kbps)		
	Audio Output	1-ch, RCA		
	Audio Bit Rate	64 Kbps		
	Dual-Stream	Support   (Sub-stream at CIF: 6 fps, QCIF: 25 fps (P)/30 fps (N))		
	Stream Type	Video, Video & Audio		
<b>Hard Disk</b>	Playback Resolution	4CIF/2CIF/CIF/QCIF		
	Synchronous Playback	4-channel	8-channel	16-channel
	SATA	2 SATA interfaces (1 for 11C and 11D models)		
<b>External Interface</b>	Capacity	Up to 2TB capacity for each disk		
	Network Interface	1 RJ45 10M/100M Ethernet Interface		
	Serial Interface	1 RS-232 Interface (for Probridge, Challenger, Technical Support); 1 RS-485 interface (for PTZ control or KTD405 keyboard control)		
	USB Interface	2, USB 2.0		
	Alarm In	4		
<b>General</b>	Alarm Out	1		
	Power Supply	12VDC		
	Consumption (without hard disk or DVD-R/W)	≤ 15 W	≤ 20 W	≤ 30 W
	Working Temperature	-10° to 55°C		
	Working Humidity	10% ~ 90%		
	Chassis	1.5U		
	Dimensions (W x D x H)	12.40 x 8.77 x 1.75 in. (315 x 222.8 x 44.5mm)	14.25 x 13.0 x 3.07 in. (362 x 330 x 78mm)	
	Weight	≤ 8 kg (without hard disk)		
	Web Browser Support	Windows Internet Explorer version 6,7,8 and 9; Mozilla Firefox version 3.5 and above; Google Chrome version 8.0 and above		

## Dimensional Diagram



## Ordering Information

<b>TVR-1104C-500</b>	TruVision® DVR 11 Compact, H.264, 4 ch, 500GB Storage
<b>TVR-1104C-1T</b>	TruVision DVR 11 Compact, H.264, 4 ch, 1TB Storage
<b>TVR-1108-1T</b>	TruVision DVR 11, H.264, 8 ch, 1TB Storage
<b>TVR-1108-2T</b>	TruVision DVR 11, H.264, 8 ch, 2TB Storage
<b>TVR-1116-1T</b>	TruVision DVR 11, H.264, 16 ch, 1TB Storage
<b>TVR-1116-2T</b>	TruVision DVR 11, H.264, 16 ch, 2TB Storage
<b>TVR-1116-4T</b>	TruVision DVR 11, H.264, 16 ch, 4TB Storage
<b>TVR-1108D-1T</b>	TruVision DVR 11, H.264, 8 ch, 1TB Storage, DVD
<b>TVR-1108D-2T</b>	TruVision DVR 11, H.264, 8 ch, 2TB Storage, DVD
<b>TVR-1116D-1T</b>	TruVision DVR 11, H.264, 16 ch, 1TB Storage, DVD
<b>TVR-1116D-2T</b>	TruVision DVR 11, H.264, 16 ch, 2TB Storage, DVD

## TruVision™ DVR 11 storage tables

### 16-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
1TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
2TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
4TB HDD	30 fps	15 fps	8 fps	12 fps	8 fps	4 fps	10 fps	6 fps	2 fps

### 8-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
1TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
2TB HDD	30 fps	15 fps	8 fps	12 fps	8 fps	4 fps	10 fps	6 fps	2 fps

### 4-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
500GB HDD	30 fps	15 fps	8 fps	15 fps	8 fps	4 fps	10 fps	6 fps	2 fps
1TB HDD	30 fps	15 fps	8 fps	30 fps	15 fps	8 fps	20 fps	12 fps	6 fps

Storage table assumes continuous recording for all cameras at highest quality setting in NTSC video format (with audio recording off). Actual storage and frames per second (fps) may vary by application, camera type, and environmental conditions.



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Specifications subject to change without notice.

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Video | LTC 8900 Series Allegiant Matrix/Control Systems - Modular

# LTC 8900 Series Allegiant Matrix/Control Systems - Modular

www.boschsecurity.com



**BOSCH**  
Invented for life



- ▶ 4096 Camera by 512 monitor switching
- ▶ Modular construction
- ▶ Powerful alarm handling capabilities
- ▶ SalvoSwitching and SatelliteSwitch capability
- ▶ Includes Windows-based configuration software
- ▶ Includes system controller PC and LCD monitor
- ▶ Preloaded programming and diagnostic software
- ▶ Dual/redundant CPU/power supply

The LTC 8900 Series Allegiant Video Switcher/Control Systems are powerful full matrix switchers, capable of displaying video from any camera on any monitor, either manually or via independent automatic switching sequences. By using the LTC 8901 Series CPU and the LTC 8943 series PC, the standard system can be enhanced to include dual/redundant CPU/Power supply with automatic hot-switchover capabilities.

## Functions

### General Construction

The LTC 8900 Series provides versatile modular construction accommodating up to 4096 camera inputs, 512 monitor outputs, 120 keyboards, 1024 alarm points, and a computer interface port. The robust design utilizes a separate CPU bay with its own power supply.

### Dual/Redundant System

For situations where complete system failure cannot be tolerated, we offer the dual redundant LTC 8901 CPU. This CPU unit incorporates a secondary CPU/power supply. In the event of a primary CPU or power

supply failure, the system switches over automatically to the backup CPU or power supply. The system uses an independent PC that continuously monitors the CPUs for failure and performs a hot-switchover if needed. You can also manually change CPUs using the preloaded software or via a front panel slide switch.

### Sequencing Capabilities

These systems can be programmed with up to 256 sequences, which can be run independently of each other in either a forward or reverse direction. Any of the sequences can utilize the SalvoSwitching capability, where any number of system monitors may be selected to switch as a group. Using the supplied software, sequences can automatically activate and deactivate based upon the day or the time of day.

### Camera Control

The LTC 8900 Series support variable speed operation and full programming access for AutoDome and AutoDome Easy II Series cameras. In addition, on-site receiver/drivers are available to provide operator control of pan, tilt, zoom, pre-positions, auxiliaries,

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auto-pan, and random scan functions when used with conventional pan/tilt devices. An integral local test function is also a standard feature.

The LTC 8900 Series include an impressive user-based priority system and a series of programmable lockout tables to limit operator access of remotely controlled devices. Operators can restrict control from lower priority operators either manually or automatically. When enabled to operate automatically, a built-in time-out period is user programmable.

**Bilinx Capability**

When combined with an LTC 8016 Allegiant Bilinx Data Interface unit, these switcher/controllers support operations using Bilinx communication. With Bilinx, PTZ control is accomplished using a bidirectional communication protocol embedded in the video signal of Bosch Dinion® AutoDome, and AutoDome Easy II CCTV cameras. In addition, Bilinx uses the standard video cable to transmit alarm and status messages from the cameras, providing superior performance without the need for separate data transmission cables.

**Macro Capabilities**

The LTC 8900 system provides powerful macro capabilities. Macros can be activated using Allegiant Series system keyboards, timed event functions, and alarm activations.

**Alarm Capabilities**

The LTC 8540/00 alarm interface unit allows external contact closure or logic level input to automatically display cameras on a monitor or group of monitors. The supplied PC software includes the ability to combine multiple alarm operating modes within the same system. Alarm video may be selected to reset either manually or automatically. In addition, one can customize a 16-character alarm titles to designate the specific alarm condition.

**System Operation**

System operation and programming is accomplished using a full-function, ergonomically designed keyboard. Up to 120 keyboards may be used in the system. Built-in operator priority levels and the ability to restrict certain operators from controlling designated functions provide maximum flexibility.

**Programming/Software Capabilities**

The LTC 8900 Series includes a black outlined 48-character on-screen display for time/date, camera number, camera ID (16 or 40 characters), and monitor (12 characters) or status information. A user selectable option provides the ability to display a third line of on-screen text. This third line can be configured to display up to 24 additional camera title characters (40 characters total) or a 12-character monitor title. The on-screen display is also user selectable to operate in "6-digit Camera ID" mode. When enabled, 2-digit "site numbers" are displayed in addition to the 4-digit camera number. The 2-digit site number feature

is especially useful when groups of cameras are located in separate buildings, floors, or other common areas.

Over 1,000 characters covering a multitude of languages, (including several hundred Chinese symbols) are available to help program camera ID and monitor titles. Using the supplied PC software, enhanced programming and switching features can be obtained. A user friendly spreadsheet format allows one to easily enter/change camera titles, operator names, timed events (128), system parameters, camera sequences, lockouts, and advanced alarm response programming. The software also provides the ability to enable an on-screen indicator for easy identification of controllable cameras. Another useful feature of the software is its ability to store or print (in real-time) programming information, system events, alarms, switching functions, sequence events, keyboard actions, and video loss information.

**Expansion Capabilities**

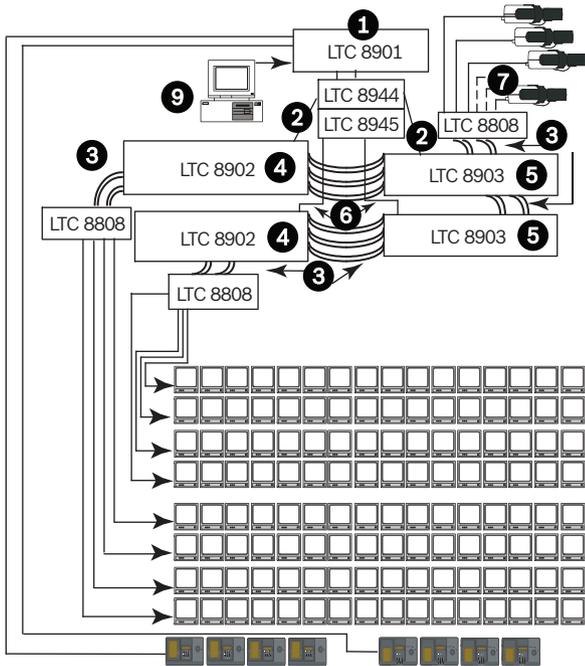
The LTC 8900 Series can serve as the Master or Slave Switcher in a SatelliteSwitch® configuration. This innovative SatelliteSwitch feature enables a single LTC 8900 system to communicate with remotely located Satellite systems. Any Allegiant system can serve as a remote Satellite Switcher. This powerful feature permits the design of large distributed type systems. The main control site can view and control local cameras as well as cameras located at any of the remotely distributed Satellite sites. The Satellite sites can view and control only cameras associated with their local site. When used in this type of configuration, the main LTC 8900 system can access up to 256 Satellite sites.

**Certifications and Approvals**

<b>Electromagnetic Compatibility (EMC)</b>	Complies with FCC Part 15, ICES-003, and CE regulations
<b>Product Safety</b>	Complies with CE regulations, UL, CSA, EN, and IEC Standards

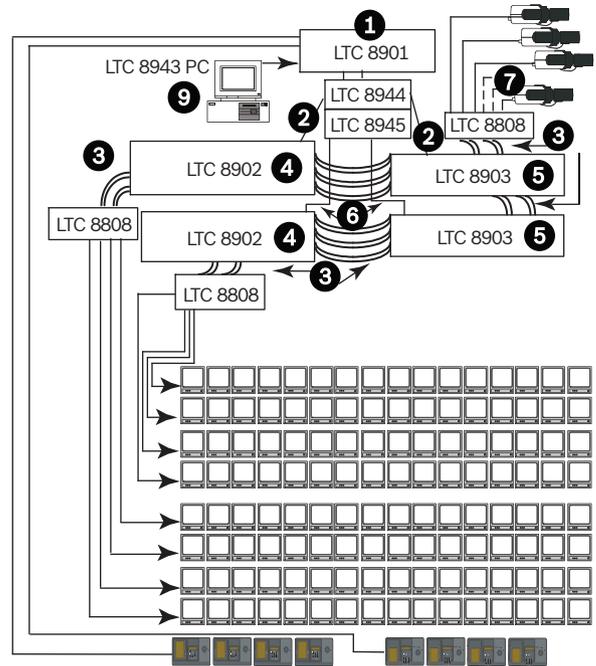
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Installation/Configuration Notes



Typical Diagram of LTC 8904 Series System Configuration (256 Cameras by 128 Monitors)

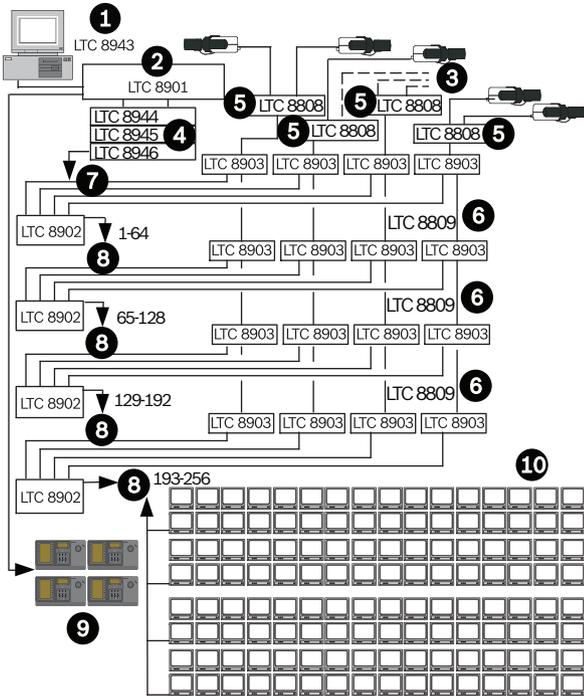
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 User PC



Typical Diagram of LTC 8901 Series Redundant System Configuration (256 Cameras by 128 Monitors)

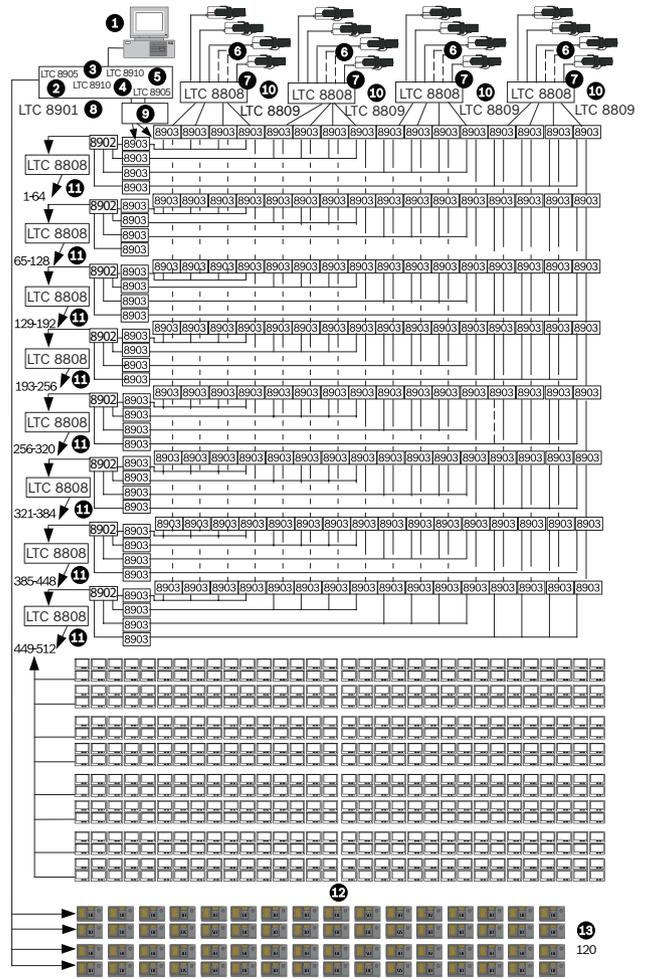
- 1 Main CPU Bay
- 2 LAN Data Lines
- 3 LTC 8809 Cables
- 4 Video Output Bay
- 5 Video Input Bay
- 6 Camera
- 7 Monitors
- 8 Keyboards
- 9 PC

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Typical Diagram of LTC 8901 Series Redundant System Configuration (1024 Cameras by 256 Monitors)

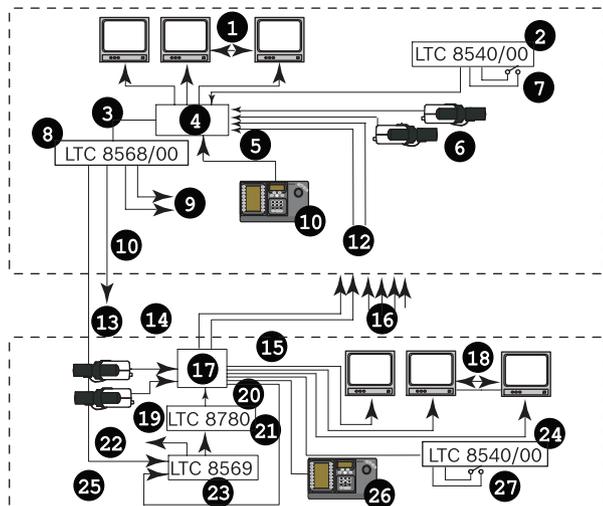
- 1 PC Running Configuration, Redundancy, and Data Mirroring Software
- 2 Main CPU Bay
- 3 Cameras
- 4 LAN Switchers
- 5 Video Panels
- 6 Coax Ribbon Cables
- 7 LAN Data Lines to all Bays
- 8 To Monitors
- 9 Up to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)
- 10 Up to 512 System Monitors
- 0



Typical Diagram of LTC 8901 Series Redundant System Configuration (4096 Cameras by 512 Monitors)

- 1 PC Running Configuration Software
- 2 Main Power Supply
- 3 Main CPU Module
- 4 Backup CPU Module
- 5 Backup Power Supply
- 6 Cameras
- 7 Video Panels
- 8 Main CPU Bay
- 9 LAN Switchers
- 10 Coax Ribbon Cables
- 11 To Monitors
- 12 Up to 512 System Monitors
- 13 UP to 120 System Keyboards (Using LTC 8714 and LTC 8715 Series Port Expanders)

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Allegiant Satellite Switching System

- 1 Monitor Outputs
- 2 Alarm Interface Unit
- 3 Pan/Tilt/Zoom and Satellite Control Data
- 4 Allegiant Main CPU Bay
- 5 Alarm Inputs May Activate Either Local or Satellite Video Main Control Center's Monitor
- 6 Local Camera Video
- 7 Inputs Used for both Local and Trunk Lines
- 8 Signal Distribution Unit
- 9 To any Local Pan/Tilt/Zoom Camera Sites
- 10 Up to 1.5 km (5000 ft) using 1 sq mm (18 AWG) Shielded Twisted Pair (Belden 8760 or Equivalent)
- 11 Allegiant Keyboard Controls any Local or Remote Camera on any Local Monitor (Video and Pan/Tilt/Zoom)
- 12 Multiple Video Trunk Lines from each Remote Satellite Location
- 13 One Line to Each Remote Satellite System Location
- 14 Pan/Tilt/Zoom and Satellite Control Data
- 15 Monitor Outputs used as Video Trunk Lines to Main Control Site
- 16 Video Trunk Lines from other Satellite Locations
- 17 Any Model Allegiant Main Bay
- 18 Local Monitor
- 19 Console Port Input
- 20 Satellite Data Line
- 21
- 22
- 23
- 24
- 25
- 26
- 27

- 2 Data Converter Unit
- 1
- 2 To any Local Pan/Tilt/Zoom Camera Sites
- 2
- 2 Code Merger Unit
- 3
- 2 Alarm Interface Unit
- 4
- 2 Local Pan/Tilt/Zoom Control Data Line
- 5
- 2 Alarm Inputs Activate only Local Video on Local Monitors
- 6
- 2 Allegiant Keyboard Controls any of the Local Cameras on any of the Local Monitors (Video and Pan/Tilt/Zoom)
- 7

Technical Specifications

LTC 8900 Series System Specifications

Capacities			
Video Inputs			
Standard	4096		
Satellite Configuration	6144		
Video Outputs			
512			
Keyboards			
120			
Alarm Inputs			
1024			
Receiver/Drivers			
Standard	4096		
Satellite Configuration	6144		
Electrical			
Input Voltage Level	0.5 Vp-p to 2 Vp-p (composite negative sync)		
Gain	Unity ± 2% (75 Ohm terminated)		
Pulse/Bar Ratios <sup>1</sup>	Min.	Nom.	Max.
	94%	98%	106%
2T Pulse K Factor <sup>1</sup>	Min.	Nom.	Max.
		0.2%	2.5%
Bar Amplitude (IRE) <sup>1</sup>	Min.	Nom.	Max.
	96	98	104
Sync Amplitude (% Bar) <sup>1</sup>	Min.	Nom.	Max.
	36%	39%	44%
Field Time Waveform Distortion <sup>1</sup>	2% maximum		
Line Time Waveform Distortion <sup>1</sup>	1% maximum		
Short Time Waveform Distortion <sup>1</sup>	2% maximum		

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Long Time Waveform Distortion <sup>1</sup>	0.8% maximum		
Video Bandwidth (-3 dB)	17 MHz		
Frequency Response	± 0.5 dB to 11 MHz		
Signal-to-Noise-Ratio <sup>1</sup>	70 dB at 3.58 MHz unified unweighted minimum		
Crosstalk (at 3.58 MHz)	Typical: -65 dB, Adjacent channel: -45 dB (typical)		
Hum	60 dB below the composite 1 Vp-p video signal from 60 Hz to 6 MHz		
Differential Gain <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6%	2%
Differential Phase <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.6°	1.3°
Chrominance Luminance Gain	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	94%	100%	109%
Chrominance Luminance Delay <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
	-33 ns	+3 ns	+33 ns
Luminance Nonlinearity <sup>1</sup>	<b>Min.</b>	<b>Nom.</b>	<b>Max.</b>
		0.3%	4%
Switching	Crosspoint matrix		
DC Output	0 V		
Transient Protection (VIM Cards)	350 W Peak Pulse Power (tp = 8/20 µs)		

<sup>1</sup> Meets EIA/TIA - 250C Medium Haul Standard for 1024 cameras x 64 monitors.

**Environmental**

Temperature	
Operating	4°C to 50°C (40°F to 122°F)
Storage	-40°C to 60°C (-40°F to 140°F)
Altitude	4500 m (15,000 ft)
Humidity	0 to 95 % relative, non-condensing
Vibration	3 g swept sine wave, 15 Hz to 2000 Hz
Shock	50 g, 11 m/s, ½ sine wave

**LTC 8904 CPU Equipment Bay**

The LTC 8904/60 and LTC 8904/50 include the equipment rack, LTC 8910/01 microprocessor module, LTC 8905/90 power supply, and LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>2</sup>
LTC 8904/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8904/50	220-240 VAC, 50/60 Hz	198 to 264	30 W

<sup>2</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Port	9-pin D-type RS-232 port for an external PC or computing device (default = 115,200 baud)
Console	9-pin D-type RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	9-pin D-type RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Bi-Phase	9-pin D-type TTL level, high-speed control data output (BiPhase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two 9-pin D-type RS-485 ports for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	RJ-45 high-speed LAN port for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8946 Series LAN switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	7.2 kg (15.85 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Module (LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (One-LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Front Panel Indicators	Power, CPU activity

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**LTC 8901 Series CPU Equipment Bay**

The LTC 8901/60 and LTC 8901/50 include the equipment rack, dual LTC 8910/01 microprocessor modules, dual LTC 8905/90 power supplies, and one LTC 8917/00 relay module.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>3</sup>
LTC 8901/60	120 VAC, 50/60 Hz	100 to 140	30 W
LTC 8901/50	220–240 VAC, 50/60 Hz	198 to 264	30 W

<sup>3</sup> Power at rated voltage fully loaded.

**Connectors**

Controller Ports	Two (2), RS-232 ports for an LTC 8943 PC controller interface (default = 115,200 baud)
Console	RS-232 port for an external computer or a computing device (default = 19,200 baud)
Alarm	RS-232 port for an Allegiant alarm accessory unit (default = 19,200 baud)
Switch Ctrl	Digital interface port for the LTC 8943 PC controller
Bi-Phase	TTL level, hi-speed control data output (Bi-Phase) for interface to an Allegiant series signal distribution units (data clock rate = 31.25 kHz)
COM Ports	Two (2), RS-485 port for an external Allegiant accessory use
Keyboards	Eight (8), 6-pin RS-485 ports for an Allegiant keyboard use (default = 9600 baud)
LAN	Two RJ-45 high-speed LAN ports for interface to LTC 8902 Series and LTC 8903 Series bays via LTC 8944 Series and LTC 8945 Series LAN Switches

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 440 x 394 x 86 mm (17.3 x 15.5 x 3.4 in.)
Weight	8 kg (17.6 lb)
Construction	Metal case with plastic panel
Finish	Charcoal

**Microprocessor Modules (Two–LTC 8910/01)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.5 kg (1.1 lb)

**Power Supplies (Two–LTC 8905/90)**

**Relay Module (LTC 8917/00)**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
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**Front Panel Indicators**

**LTC 8901**

- Primary power
- Primary fault
- Back-up power
- Back-up fault
- Primary CPU in-use
- Controller activity
- Back-up CPU in-use
- Auto-select mode
- Primary CPU activity
- Fault buzzer
- Back-up CPU activity

**LTC 8904**

- Power
- CPU Activity

**Rear Panel Indicators**

- Relay outputs<sup>4</sup>
- Primary CPU fault
- Back-up power supply failure
- Back-up CPU fault
- Any failure
- Primary power supply failure

<sup>4</sup> Relay Contacts: 24 VAC, 40 V peak, 1 A.

**LTC 8902 Series Monitor Output Bays**

The LTC 8902/60 and LTC 8902/50 include the equipment rack, LTC 8916/01 data receiver module, and LTC 8906 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>5</sup>
LTC 8902/60	120 VAC, 50/60 Hz	100 to 140	160 W
LTC 8902/50	220–240 VAC, 50/60 Hz	198 to 264	160 W

<sup>5</sup> Power at rated voltage fully loaded.

**Connectors**

Video Outputs	Four (4), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Video Bus Connections	Sixteen (16), 34-pin ribbon connectors interconnect with LTC 8903 Series Camera Input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use

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EXT Sync	BNC input used to synchronize the unit to an external sync signal. Accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V Sync	BNC connector provides an output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to the LTC 8901 Main CPU bay via system LAN Switches. (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8916/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8906/60 or LTC 8906/50)**

Dimensions (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8903 Series Camera Input Bays**

The LTC 8903/60 and LTC 8903/50 include the equipment rack, LTC 8918/01 data receiver module, and LTC 8805 Series power supply.

**Electrical**

Model No.	Rated Voltage	Voltage Range	Nominal Power <sup>6</sup>
LTC 8903/60	120 VAC, 50/60 Hz	100 to 140	85 W
LTC 8903/50	220–240 VAC, 50/60 Hz	198 to 264	85 W

<sup>6</sup> Power at rated voltage fully loaded.

**Connectors**

Video Inputs	Sixteen (16), 34-pin ribbon connectors used in conjunction with the LTC 8808/00 video interconnect panel
Looping Video Input Connections	Sixteen (16), 34-pin ribbon connectors used with LTC 8809/00 ribbon cables (supplied as required to loop to additional LTC 8903 Series bays)

Video Bus Connections	Four (4), 34-pin ribbon connectors interconnect with LTC 8903 Series camera input bays using LTC 8809/00 ribbon cables
Console	Port reserved for future use
COM 1	Port reserved for future use
COM 2	Port reserved for future use
EXT SYNC	BNC input used to synchronize unit to external sync signal; accepts composite video, composite sync, or the V Sync output provided from another LTC 8900 Series matrix bay
V SYNC	BNC connector provides output signal to synchronize an additional LTC 8900 Series matrix bay via its EXT Sync input
External Data Interface	Two (2), RJ-45 high-speed LAN ports for interface to LTC 8901 main CPU bay via system LAN Switches (Connected in parallel; one is used, one is reserved for future use)

**Components**

**Equipment Rack**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	11.1 kg (24.5 lb)
Construction	Metal cabinet
Finish	Charcoal

**Data Receiver Module (LTC 8918/01)**

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 420 x 267 mm (19 x 16.5 x 10.5 in.)
Weight	0.5 kg (1.1 lb)

**Power Supply (LTC 8805/60 or LTC 8805/50)**

Size (W x D x H)	67 x 360 x 247 mm (2.63 x 14.2 x 9.7 in.)
Weight	5.2 kg (11.5 lb)
Indicators	Power On/Off and fuse alert LEDs

**LTC 8921/00 Video Input Module**

Use up to sixteen per LTC 8903 Series camera input bays.

Camera Inputs	32
Size (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8934/00 Video Output Module**

Use up to eight per LTC 8902 Series monitor output bays.

Monitor Outputs	8
-----------------	---

**9 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular**

Dimensions (D x H)	300 x 250 mm (11.8 x 9.8 in.)
Weight	0.41 kg (0.9 lb)

**LTC 8941/91 System Controller**

**(Redundant System Configurations Only)**

Includes LTC 8943/94 PC, LTC 8944/93 Primary LAN Switch and LTC 8945/93 Backup LAN Switch

LTC 8943/94 PC	Rack-mount industrial-grade Pentium PC, 512 MB RAM (minimum), 8 GB solid state hard drive (minimum), CD-/DVD burner, floppy drive, keyboard, mouse, keyboard/mouse rack-mount shelf, and Windows XP Professional; 120/230 VAC, 50/60 Hz
LTC 8059/00	Allegiant Master Control software (installed on PC)
Monitor (UML-191-90)	48.3 cm (19 in.) LCD panel 120/230 VAC, 50/60 Hz
Monitor Rack (UMM-LCDUB-RM)	Racked Height: 37.4 cm (14.7 in.) Racked Width: 48.3 cm (19.0 in.)
LTC 8944/93 Primary LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with primary IP Address; 120/220 VAC, 50/60 Hz
LTC 8945/93 Back-Up LAN Switch	24-port 10/100Base-T Ethernet Switch with SNMP Module, programmed with back-up IP Address; 120/220 VAC, 50/60 Hz

**LTC 8946/93 Expansion LAN Switch**

24-port 10/100BaseT Ethernet Switch, no SNMP module; 120/220 VAC, 50/60 Hz

**LTC 8808/00 Video Interconnect Panel**

The LTC 8808/00 assembly contains an interconnect panel which is used to convert 32 BNC connectors into two 16-channel ribbon cable connectors. The two (2) coaxial ribbon cables (LTC 8809/00), designed especially for use with video signals, and are then used to interconnect the video between the panel and the LTC 8900 system. Use of the LTC 8808/00 assemblies are required for all external video input and output connections. In addition to being used for video inputs and monitor outputs, the LTC 8808/00 assembly is also used to provide looping capability. One (1) LTC 8808/00 (includes panel and two ribbon cables) is required for each group of 32 system cameras or 32 monitors.

Dimensions (W x D x H)	EIA 48 cm (19 in.) rack, 483 x 42 x 44 mm (19 x 1.65 x 1.75 in.)
<b>Weight</b>	
• Panel	0.54 kg (1.2 lb)
• Ribbon Cables	Two (2), 0.3 kg (0.7 lb)
Construction	Metal
Finish	Charcoal

**Allegiant Accessories**

The LTC 8900 Series accessory products provide many optional features to the base Allegiant switching systems. Accessory products include keyboard extension kits, Allegiant Bilinx Data Interface unit, receiver/driver units, switcher/followers, code merger units, video ribbon cables, and keyboard expansion units. All accessory products are designed to be installer-friendly and compatible throughout the Allegiant series systems. See the Allegiant Accessories datasheet.

**Ordering Information**

**LTC 8901/50 Allegiant Dual CPU Bay**

Dual CPU bay, 230 VAC  
Order number **LTC 8901/50**

**LTC 8901/60 Allegiant Dual CPU Bay**

Dual CPU bay, 120 VAC  
Order number **LTC 8901/60**

**LTC 8902/50 Allegiant Monitor Bay**

Monitor bay, 230 VAC  
Order number **LTC 8902/50**

**LTC 8902/60 Allegiant Monitor Bay**

Monitor bay, 120 VAC  
Order number **LTC 8902/60**

**LTC 8903/50 Allegiant Camera Bay**

Camera bay, 230 VAC  
Order number **LTC 8903/50**

**LTC 8903/60 Allegiant Camera Bay**

Camera bay, 120 VAC  
Order number **LTC 8903/60**

**LTC 8904/50 Allegiant CPU Bay**

CPU bay, 230 VAC  
Order number **LTC 8904/50**

**LTC 8904/60 Allegiant CPU Bay**

CPU bay, 120 VAC  
Order number **LTC 8904/60**

**LTC 8905/90 Power Supply**

for LTC 8901 and LTC 8904 Series, 120/240 VAC  
Order number **LTC 8905/90**

**LTC 8906/50 Power Supply**

for LTC 8902/50, 230 VAC  
Order number **LTC 8906/50**

**LTC 8906/60 Power Supply**

for LTC 8902/60, 120 VAC  
Order number **LTC 8906/60**

**LTC 8910/01 CPU Module**

CPU module for LTC 8901 and LTC 8904 Series  
Order number **LTC 8910/01**

**LTC 8916/01 Data Receiving Module**

for LTC 8902 Series  
Order number **LTC 8916/01**

**10 | LTC 8900 Series Allegiant Matrix/Control Systems - Modular****LTC 8917/00 Relay Module**

for LTC 8901 Series

Order number **LTC 8917/00****LTC 8918/01 Data Receiving Module**

for LTC 8903 series

Order number **LTC 8918/01****LTC 8921/00 Video Input Module**

for LTC 8900 Series

Order number **LTC 8921/00****LTC 8934/00 Video Output Module**

for LTC 8900 Series

Order number **LTC 8934/00****LTC 8934/00-75 VOM**

LTC 8900 VOM with Korean characters

Order number **LTC 8934/00-75****LTC 8941/91 PC/Monitor/LAN/Software Package**

for LTC 8901 Series

Order number **LTC 8941/91****LTC 8944/92 Programmed 12-port Primary LAN**Order number **LTC 8944/92****LTC 8945/92 Programmed 12-port Backup LAN**Order number **LTC 8945/92****LTC 8946/92 Basic 12-port Expansion LAN**Order number **LTC 8946/92****Accessories****LTC 8944/93 Programmed 24-port Primary LAN Switch**Order number **LTC 8944/93****LTC 8945/93 Programmed 24-port Backup LAN Switch**Order number **LTC 8945/93****LTC 8946/93 Basic 24-port Expansion LAN Switch**Order number **LTC 8946/93****Software Options****SFT-VASA Hybrid IP - Analog/Matrix Video over IP Integration Software**Order number **SFT-VASA****LTC 8850/00 GUI Allegiant Single User Software Package**Order number **LTC 8850/00****SFT-INTSRV Integration Server Software**

Allegiant integration software package

Order number **SFT-INTSRV****Represented by:****Americas:**

Bosch Security Systems, Inc.  
130 Perinton Parkway  
Fairport, New York, 14450, USA  
Phone: +1 800 289 0096  
Fax: +1 585 223 9180  
security.sales@us.bosch.com  
www.boschsecurity.us

**Europe, Middle East, Africa:**

Bosch Security Systems B.V.  
P.O. Box 80002  
5617 BA Eindhoven, The Netherlands  
Phone: + 31 40 2577 284  
Fax: +31 40 2577 330  
emea.securitysystems@bosch.com  
www.boschsecurity.com

**Asia-Pacific:**

Robert Bosch (SEA) Pte Ltd, Security Systems  
11 Bishan Street 21  
Singapore 573943  
Phone: +65 6571 2808  
Fax: +65 6571 2699  
apr.securitysystems@bosch.com  
www.boschsecurity.asia

**China:**

Bosch (Shanghai) Security Systems Ltd.  
201 Building, No. 333 Fuquan Road  
North IBP  
Changning District, Shanghai  
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Fax: +86 21 22182398  
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Fax: +55 19 2103 2862  
al.securitysystems@bosch.com  
www.boschsecurity.com



# Altronix ALTV1224C Specification Datasheet

16 Fused Outputs CCTV Combination AC & DC Wall Mount. 12VDC @ 3.5A and 24VAC @ 3.5A.

## Overview

ALTV1224C AC/DC Dual Output Power Supply is designed to provide both 12VDC and 24VAC outputs where a combination of both AC and DC outputs are required.

## Agency Listings

- CE Approved

## Specs

### Input:

- 115VAC 50/60 Hz, 1.52 amp.

### Output:

- Sixteen (16) individually fused outputs.
- - Eight (8) fuse protected outputs @ 12VDC.
- - Eight (8) fuse protected outputs @ 24VAC.
- 7 amp total output current.
- - 3.5 amp supply current @ 12VDC.
- - 3.5 amp supply current @ 24VAC.
- Output fuses are rated @ 3.5 amp/250VAC.
- Main fuses are rated at 5 amp/250VAC.
- Filtered and electronically regulated outputs (DC outputs).
- Surge suppression (AC outputs).

### Electrical:

- Operating temperature: -20° C to 49° C ambient.
- BTU/Hr.:
- - 12VDC: 21.49 BTU/Hr.
- - 24VAC: 42.97 BTU/Hr.
- System AC input VA requirement: 174.8VA.

### Features:

- AC/DC power LED indicators.
- Power ON/OFF switch.
- Unit maintains camera synchronization.
- Ease of installation saves time & eliminates costly labor.
- [Lifetime Warranty](#)

### Enclosure:

- Wall mount enclosure for indoor use.
- Dimensions 15.5"H x 12.25"W x 4.5"D (394mm H x 311mm W x 114mm D)
- 1.125" and 1.375" combination knockouts.

### Weights (approximate):

- Product Weight: 17.75 Lbs (8.05 kg)
- Shipping Weight: 19.05 Lbs (8.64 kg)



# DVR 11

## H.264 Digital Video Recorder



### OVERVIEW

The TruVision® DVR 11 (TVR 11) is a cost-effective, digital video recorder with 4-, 8- or 16-channel capabilities. It utilizes H.264 video compression technology to deliver real-time recording per channel at a CIF resolution.

A built-in Web browser and access via mobile apps allow you to stay connected remotely via any Web-enabled device. Login via smartphone or tablet to configure, view, search, archive and monitor facilities, people or valuables. Compatible with TruVision Navigator, the DVR 11 integrates easily with existing systems and features a familiar, user-friendly interface. Start-up Wizards make installation and DDNS setup quick and simple.

Internal storage from 500GB up to 4TB is available. In addition, video can also be archived via USB memory sticks. For user-friendly, remote management and reliable recording, the DVR 11 represents a comprehensive solution to fit your needs and budget.

### STANDARD FEATURES

- H.264 compression technology
- 4-, 8- or 16-channel real-time recording at CIF resolution
- Mobile apps allow you to connect remotely via smartphone or tablet to keep an eye on facilities, people or valuables
- Text Insertion via ProBridge for POS/ATM applications
- Start-up Wizards for quick and easy installation, search and playback
- PTZ and dome camera control via mouse, front panel joystick and IR remote controller
- E-mail notification upon alarm with attached images
- Triple monitor support - Monitor A, Monitor B and Spot Monitor
- Fully compatible with TruVision Navigator software
- Integrates easily with existing systems
- Familiar, user-friendly interface
- Features up to 4TB internal storage
- Time lapse, event and alarm recording settings
- One-channel reverse video playback for easy search of recorded video
- HDMI output for high-quality local viewing
- Compact chassis for 4-channel models
- Simple one-button archive video via USB 2.0, CD/DVD\* or download allows convenient remote access to archived video

\*11D Models Only

# DVR 11

H.264 Digital Video Recorder

North America  
T 855-286-8889

Asia  
T 852-2907-8108

Australia  
T 61-3-9239-1200

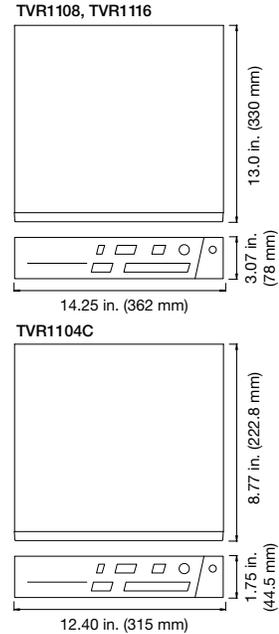
Europe  
T 32-2-725-11-20

Latin America  
T 561-998-6114

## Specifications

Model	TVR1104C	TVR1108	TVR1116	
<b>Video/Audio Input</b>	Video Compression	H.264		
	Analog Video Input	4-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive	8-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive	16-channel, BNC, (1.0 Vp-p, 75 Ω), PAL/NTSC self-adaptive
	Audio Compression	G711		
	Audio Input	4-channel, RCA, (2.0 Vp-p, 1 Ω)		
	Two-Way Audio	1-ch (Reduplicated with Audio input 1), RCA (2.0 Vp-p, 1 kΩ)		
<b>Video/Audio Output</b>	HDMI Output	1-channel, resolution: 1920x1080P/60Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz		
	VGA Output	1-channel, resolution: 1920x1080P/60Hz, 1600x1200/60Hz, 1280x1024/60Hz, 1280x720/60Hz, 1024x768/60Hz		
	CVBS Output	1-channel, BNC, (1.0 Vp-p, 75 Ω), resolution: PAL: 704x576, NTSC: 704x480		
	Video Loop Out	n/a	8-channel	16-channel
	Encoding Resolution	4CIF/2CIF/CIF/QCIF		
	Frame Rate	8 fps @ 4CIF, 15 fps @ 2CIF, 25 fps (P)/30 fps (N) @ CIF/QCIF; Total Frame Rate: 120 fps		
	Video Bit Rate	32 Kbps ~ 3072 Kbps, or user-defined (Max. 3072 Kbps)		
	Audio Output	1-ch, RCA		
	Audio Bit Rate	64 Kbps		
	Dual-Stream	Support   (Sub-stream at CIF: 6 fps, QCIF: 25 fps (P)/30 fps (N))		
	Stream Type	Video, Video & Audio		
<b>Hard Disk</b>	Playback Resolution	4CIF/2CIF/CIF/QCIF		
	Synchronous Playback	4-channel	8-channel	16-channel
	SATA	2 SATA interfaces (1 for 11C and 11D models)		
<b>External Interface</b>	Capacity	Up to 2TB capacity for each disk		
	Network Interface	1 RJ45 10M/100M Ethernet Interface		
	Serial Interface	1 RS-232 Interface (for Probridge, Challenger, Technical Support); 1 RS-485 interface (for PTZ control or KTD405 keyboard control)		
	USB Interface	2, USB 2.0		
	Alarm In	4		
<b>General</b>	Alarm Out	1		
	Power Supply	12VDC		
	Consumption (without hard disk or DVD-R/W)	≤ 15 W	≤ 20 W	≤ 30 W
	Working Temperature	-10° to 55°C		
	Working Humidity	10% ~ 90%		
	Chassis	1.5U		
	Dimensions (W x D x H)	12.40 x 8.77 x 1.75 in. (315 x 222.8 x 44.5mm)	14.25 x 13.0 x 3.07 in. (362 x 330 x 78mm)	
	Weight	≤ 8 kg (without hard disk)		
	Web Browser Support	Windows Internet Explorer version 6,7,8 and 9; Mozilla Firefox version 3.5 and above; Google Chrome version 8.0 and above		

## Dimensional Diagram



## Ordering Information

<b>TVR-1104C-500</b>	TruVision® DVR 11 Compact, H.264, 4 ch, 500GB Storage
<b>TVR-1104C-1T</b>	TruVision DVR 11 Compact, H.264, 4 ch, 1TB Storage
<b>TVR-1108-1T</b>	TruVision DVR 11, H.264, 8 ch, 1TB Storage
<b>TVR-1108-2T</b>	TruVision DVR 11, H.264, 8 ch, 2TB Storage
<b>TVR-1116-1T</b>	TruVision DVR 11, H.264, 16 ch, 1TB Storage
<b>TVR-1116-2T</b>	TruVision DVR 11, H.264, 16 ch, 2TB Storage
<b>TVR-1116-4T</b>	TruVision DVR 11, H.264, 16 ch, 4TB Storage
<b>TVR-1108D-1T</b>	TruVision DVR 11, H.264, 8 ch, 1TB Storage, DVD
<b>TVR-1108D-2T</b>	TruVision DVR 11, H.264, 8 ch, 2TB Storage, DVD
<b>TVR-1116D-1T</b>	TruVision DVR 11, H.264, 16 ch, 1TB Storage, DVD
<b>TVR-1116D-2T</b>	TruVision DVR 11, H.264, 16 ch, 2TB Storage, DVD

## TruVision™ DVR 11 storage tables

### 16-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
1TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
2TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
4TB HDD	30 fps	15 fps	8 fps	12 fps	8 fps	4 fps	10 fps	6 fps	2 fps

### 8-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
1TB HDD	15 fps	8 fps	4 fps	6 fps	4 fps	2 fps	4 fps	2 fps	1 fps
2TB HDD	30 fps	15 fps	8 fps	12 fps	8 fps	4 fps	10 fps	6 fps	2 fps

### 4-Channel Models

Storage	30 Days			60 Days			90 Days		
	CIF	2CIF	4CIF	CIF	2CIF	4CIF	CIF	2CIF	4CIF
500GB HDD	30 fps	15 fps	8 fps	15 fps	8 fps	4 fps	10 fps	6 fps	2 fps
1TB HDD	30 fps	15 fps	8 fps	30 fps	15 fps	8 fps	20 fps	12 fps	6 fps

Storage table assumes continuous recording for all cameras at highest quality setting in NTSC video format (with audio recording off). Actual storage and frames per second (fps) may vary by application, camera type, and environmental conditions.



interlogix.com

Specifications subject to change without notice.

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212-3616 2013/06 (75097)

**Enterprise Security, Inc.**

Item: Parts and Products:Parts and Products:PS873 Class 2 Power Supply

**Attachments**

VON DUPRIN PS9.pdf

# VON DUPRIN® 33A/35A Options

## Electrical Accessories

### Power Supplies PS861 Power Supply



**Standard  
UL Listed  
Class 2, Power Supply  
UL1012  
UL1310**

The series PS861 power supply is designed for electric locking or monitoring on single or double door applications. The output power is field selectable for either 24 VDC @ 1 ampere or 12 VDC @ 2 ampere. Standard input 120 VAC @ 0.6 ampere and 240 VAC @ 3.0 ampere available. The terminal block will accept up to 14 gauge stranded wire.

The gray enclosure is 10" x 10" x 4" (254mm x 254mm x 102mm), has a hinged cover, and is constructed of heavy 19 gauge steel. Six 1/2" (13mm) knockout holes are provided for conduit connection.

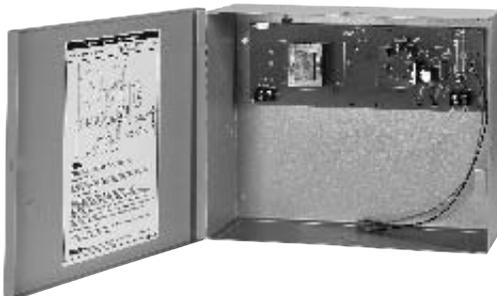
**Options include keylock cover or Battery Backup.** The pair of batteries, which are sealed lead acid battery packs, will provide back-up power for three hours at full load or seven hours at half load. Batteries will automatically recharge when failed power is restored.

#### Four Models:

- PS861 Standard supply
- PS861K Standard supply with keylock cover
- PS861B Battery backup
- PS861FA Fire Alarm
- PS861BK Battery backup and keylock cover
- PS861BKFA Battery backup and keylock cover with FA board (24VDC only)

### PS9 Power Supply

The PS9 is an AC power supply that provides 9 VDC power to operate the ALK alarm kit. The unit will power one or two alarm kits. Included is a 9-volt sealed battery that provides backup power in case of an AC power failure.



### Electrical Power Transfer — EPT Pneumatic Transfer – PNT



Electric Power Transfer provides a means of transferring electrical power from a door frame to the edge of a swinging door. The units are completely concealed when the door is in the closed position, and are ideally suited for installations involving abuse or heavy traffic.

Two models are available; EPT-2, two 18 gauge wires and EPT-10, ten 24 gauge wires. The EPT-2 and EPT-10 are U/L listed as "miscellaneous door accessory".

#### Pneumatic Controls

PNT-1 is available for pneumatic latch retraction exit devices. Appearance and dimensions are identical to EPT models.

UL Listed for use on fire doors

#### Door applications:

- up to 5" butt hinges – 180° swing,
- 5 1/2" butt hinges – 130° swing,
- 6" butt hinges – 110° swing,
- 3/4" butt offset pivots 180° swing.

Not for use with swing clear hinges or center-hung pivots.

#### Finishes

- SP28 (sprayed aluminum)
- SP313 (sprayed duranodic).

#### Dimensions

Housing	9" x 1 1/4" x 1 5/8" (229mm x 32mm x 38mm)
EPT-2	Two 18 gauge wires, Up to 2 AMPS @ 24VDC, with a 16 AMPS Maximum Surge
EPT-10	Ten 24 gauge wires, Up to 1 AMPS @ 24VDC, with a 16 AMPS Maximum Surge
PNT-1	5/32" Tubing

#### To order, specify:

1. EPT-2, EPT-10 or PNT-1.
2. Finish, SP28 or SP313.