SONY

SNC-DM160/SNC-DM110
SNC-DS60/SNC-DS10

Network Mini-dome Cameras

IPELA™ ExwavePRO

IPELA

SNC-DM160/SNC-DM110/SNC-DS60/SNC-DS10

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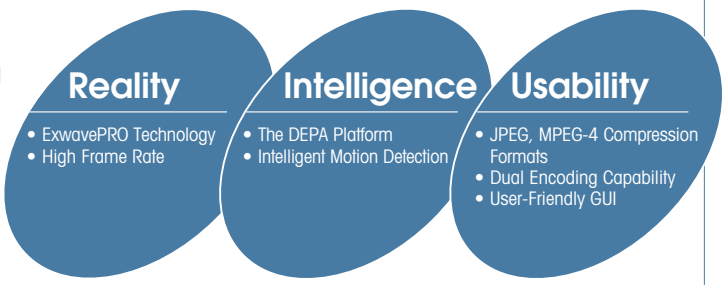


Real audiovisual communication over networks – this is business communication of the future, this is business communication brought to you today, this is **IPELA**.

New Network Mini-dome Cameras With ExwavePRO Technology and Resolution up to 1.3 Megapixels – for Clear, Detailed, and Amazingly Bright Surveillance Monitoring Images

Sony introduces a new generation of network mini-dome cameras: the SNC-DM Series Megapixel Network Cameras and the SNC-DS Series Network Cameras. Incorporating advanced progressive scan CCDs with ExwavePRO technology, they provide extremely clear and detailed images for surveillance monitoring applications. And, unlike conventional network cameras that incorporate progressive scan CCDs with primary color filters, these cameras use complementary color filters to provide amazingly bright and high-resolution images even in dimly lit environments, which is a key requirement for surveillance monitoring.

The first line of Sony megapixel mini-dome cameras, the SNC-DM Series, has been especially designed for use in security applications. Combining advanced ExwavePRO technology and a unique light funnel function, which provides high sensitivity, they produce extremely bright images even when monitoring moving objects in dark environments.

The SNC-DS Series is another powerful new addition to the Sony network mini-dome camera lineup. Just like the SNC-DM Series, these progressive scan cameras incorporate ExwavePRO technology for excellent sensitivity.

Common to both mini-dome series are sophisticated features such as Intelligent Motion Detection, Constant Bit Rate Algorithm, and flexible Gamma Curve Settings. These features provide not only high-quality images, but also intelligent and efficient operational flexibility to meet user needs in various monitoring applications.

Designed with security in mind by focusing on camera sensitivity, Sony's new mini-dome series outperforms conventional progressive scan cameras, making it the right choice for your surveillance monitoring applications.

FEATURES AT A GLANCE

	SNC-DM160	SNC-DM110	SNC-DS60	SNC-DS10
Imagers	1/3-type progressive scan CCD with ExwavePRO technology		1/4-type progressive scan CCD with ExwavePRO technology	
Picture Elements	Approx. 1,320,000 pixels		Approx. 350,000 pixels	
Ruggedized Design (IP66 compliant)	O	–	O	–
Day/Night Function	O	–	O	–
Light Funnel Function	O	O	–	–
Intelligent Motion Detection	O	O	O	O
Wall- or Ceiling-Mountable	O	O	O	O
Powerful Zoom, Auto-Iris Vari Focal Lens	O (3.6x)	O (3.4x)	O (3.6x)	O (3.6x)
Sony Patented Ball Joint Lens Mount	O	O	O	O

High-quality Images

Progressive Scan CCD With ExwavePRO Technology

The SNC-DM Series and SNC-DS Series of cameras incorporate advanced progressive scan CCDs with ExwavePRO technology. They inherit the technical advantages of Sony ExwaveHAD™ technology, while incorporating progressive scanning and complementary color filters to provide extremely high sensitivity levels and clear, crisp images in both daytime and nighttime environments. Complementary color filters are well suited in cameras used for security applications because the luminance signal-to-noise ratio is higher than when using primary color filters. These cameras, with ExwavePRO technology, provide bright images in low light conditions even when the camera has a resolution greater than 1,000,000 pixels. The minimum illumination of the SNC-DM Series is 0.8 lx in color at F1.3, and the SNC-DS Series is 0.3 lx in color at F1.3. *(Fig. 1)*

Fig. 1 (actual images)
Image Comparison Between the SNC-DS10 (ExwavePRO) and a Conventional Camera (Progressive scan CCD w/a primary color filter) in 0.7 lx lighting conditions

Megapixel — High Resolution

SNC-DM160 SNC-DM110

The SNC-DM Series of cameras have a resolution of 1.3 megapixels, which can reproduce clear and detailed images even at wide viewing angles. These cameras are ideal for use at building entrances and parking lots, where detailed images, such as those of people's faces and car license plates, are required. *(Fig. 2)*

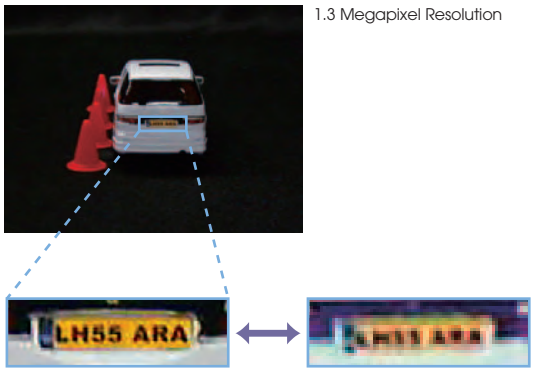


Fig. 2 (actual images)
Image Comparison Between the SNC-DM110 (1.3 Megapixel resolution) and a Conventional Camera (VGA Resolution)

Light Funnel Function for High Sensitivity*1

SNC-DM160 SNC-DM110

Unlike systems that use slow shutter speeds to provide bright images, the 'Light Funnel' mechanism is such that image data for every two pixels are combined vertically and horizontally providing extremely bright images even when monitoring moving objects at dusk. This function can be activated automatically in response to surrounding light conditions or on a pre-specified time schedule. *(Fig. 3)*

*1 When the light funnel function is activated, the image resolution is 640 x 480 (VGA).

Fig. 3 (actual images)
Light Funnel Function in 0.3 lx lighting conditions
* When the light funnel function is activated, the image resolution is 640 x 480 (VGA).

JPEG Picture Quality Settings With Constant Bitrate Algorithm

Users can preset the JPEG picture quality for these cameras from a choice of ten levels. In addition, because the cameras incorporate a constant bitrate algorithm, they can limit the data bitrate while still maintaining high-quality images. This is useful for calculating the required storage capacity and bandwidth during installation.

Variable Gamma Settings

Users can choose from six preset gamma curves. By selecting a gamma curve that is appropriate for a given scene, captured images can be reproduced clearly and sharply.

Flexible and Easy Installation

Wall- or Ceiling-mountable

For installation flexibility, these cameras can be mounted easily on either a wall or ceiling using the supplied bracket.

Ceiling Surface Mount

Ceiling Flush Mount
(w/an optional YT-ICB45 Ceiling Mount Bracket)

Easy Viewing Angle Adjustment

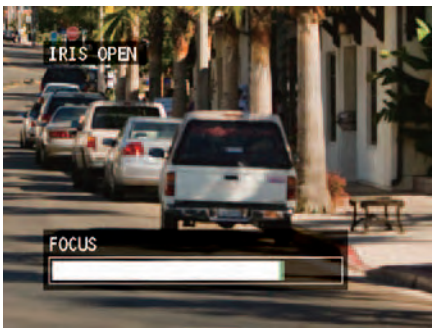
An analog composite output (RCA jack) is provided on the front of these cameras so a monitor can be connected. This allows installers to monitor images during installation for quick and accurate adjustment of the viewing angle.

Powerful Vari-focal Zoom Lens/Wide Viewing Angle

These cameras come equipped with a powerful vari-focal zoom lens. The SNC-DM160, SNC-DS60, and SNC-DS10 incorporate a 3.6x zoom lens and the SNC-DM110 incorporates a 3.4x zoom lens. In addition, the SNC-DM160 and SNC-DM110 have an extremely wide viewing angle of over 100°.

Quick Focus Adjustment

The iris on these cameras can be fully opened at the touch of a button for quick focus settings. In addition, a focus bar is displayed on the monitor, enabling accurate and easy adjustments.



(Image simulated)

Ball-Joint Lens Mount Technology

With the Sony patented Ball-Joint Lens Mount mechanism incorporated into the vari-focal lens of these cameras, the lens can be rotated freely in any direction. Unlike conventional cameras, it takes only one action to adjust the pan and tilt angles, allowing for quick and easy adjustment of the camera's viewing angle.

Sony Patented Ball-Joint Lens Mount

Compact, Ruggedized Design

SNC-DM160 SNC-DS60

The vandal-resistant SNC-DM160 and SNC-DS60 cameras are housed in a heavy-duty, aluminum die-cast enclosure with an impact-resistant polycarbonate dome. They comply with the IP66*2 standard for protection against water and dust. In addition, with a built-in heater, these cameras can be used in severe temperatures as low as -22 °F (-30 °C). Also, because of their compact size of only 6 5/8 x 4 3/4 inches (166 (ø) x 119 (H) mm), they can be easily installed in places where space is limited.

*2 Ingress Protection (IP) standard is a system for numerically classifying the degree of protection provided by enclosures of electrical equipment against solid objects and liquids. IP66 means there is no ingress of dust and the equipment is protected against powerful water jets.

Operational Flexibility

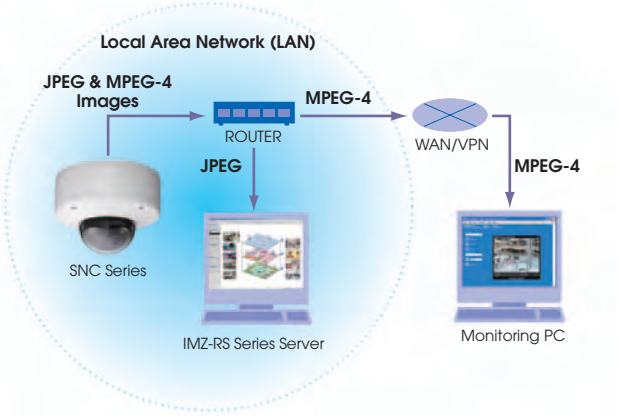
Selectable JPEG and MPEG-4 Compression Formats

These cameras support two compression formats: JPEG and MPEG-4. The industry-standard JPEG compression format is the best choice for high-quality still images. And the MPEG-4 format provides clear moving images efficiently over networks when bandwidth is limited.

Dual-encoding Capability

With a dual-encoding capability, these cameras can generate both JPEG and MPEG-4 images simultaneously at 30 fps when the image size is set to VGA*3. This capability is useful for transferring MPEG-4 images over a WAN or an Internet VPN where network bandwidth is limited, while also storing high-resolution JPEG images on a LAN-based server.

*3 The frame rate varies depending on the file size.



Dual Image Encoding

Day/Night Function

SNC-DM160 SNC-DS60

The SNC-DM160 and SNC-DS60 cameras can switch from day mode (color) to night mode (B/W) by replacing their infrared-cut filter with a clear filter. Based on user presets, the camera can toggle between day mode and night mode using an external sensor or automatically in response to surrounding light conditions. The camera can simultaneously switch to night mode and provide a trigger for near-IR illuminators via its external control port, allowing it to operate even in zero lx*4 conditions.

*4 Zero lx means the absence of visible light to the naked eye. Near-IR illuminators are required to operate at zero lx.

Bi-directional Audio

Users can connect an external microphone or an audio amp to these cameras using the mic/line input (switchable). In addition, the cameras are also equipped with an active speaker output, enabling users to sound an alert or make an announcement from the camera unit via a remote location.
This significantly expands the possibilities of monitoring applications.

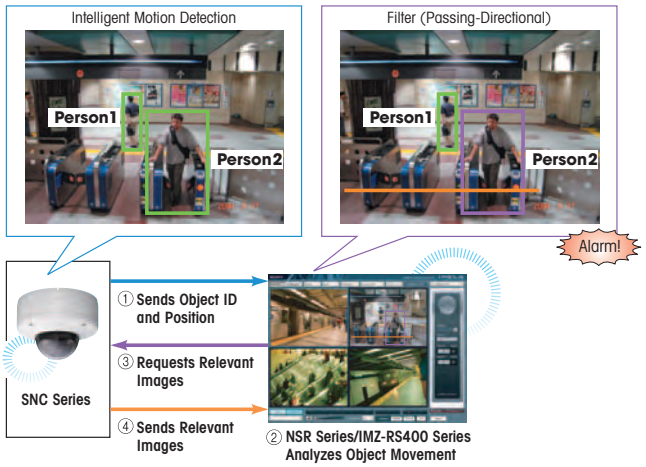
Voice Alert

The Voice Alert function allows users to upload up to three pre-recorded audio files to the camera. These can then be played out via a locally connected speaker upon an alarm trigger.

High Level of Security

The DEPA Platform – Intelligent Video Analytics

The SNC-DM Series and SNC-DS Series cameras offer intelligent video analytics, based on the Sony DEPA platform. DEPA is a combined function of the intelligence built in to the camera and rules/filters that determine which images should be recorded or when an alarm should be triggered. Using the network camera Intelligent Motion Detection (IMD) function, 'tagged' objects and their associated metadata, including object position, are sent either to the NSR Series recorder or the IMZ-RS400 Series software. These products then use the metadata, together with filters, to analyze object movement and to perform a predefined action, such as image recording or alarm triggering. This method of distributed processing minimizes server workload, network bandwidth, and storage requirements.



Distributed Enhanced Processing Architecture (DEPA)
(Image simulated)

Intelligent Motion Detection

The built-in IMD function can trigger a variety of actions, such as the storage and transfer of images or the activation of an external device through its output relays. False alarms caused by noise and repeated motion patterns are minimized thanks to an advanced Sony algorithm. Plus, when used in conjunction with DEPA-enabled recorders or software, a multitude of filter functions are available. These allow you to initiate alarms based on more specific movements, such as passing a virtual borderline.

Sensor IN/Alarm OUT Ports

Equipped with a sensor input, these cameras can receive triggers from an external sensor. Also, two alarm relay outputs can be used to trigger external devices to perform a variety of actions.

IEEE802.1X Compliant

These cameras support IEEE802.1X port-based network access control. This means they can be integrated to a network environment that uses the IEEE802.1X client-authorization protocol for security purposes.

Other Convenient Features

Solid PTZ/Cropping Functions

SNC-DM160 SNC-DM110

To minimize data size when network bandwidth is limited, Solid PTZ and Cropping are useful features. The Solid PTZ function allows users to select a specified area within the camera's field of view at a lower resolution such as VGA. By doing so, users can electronically pan, tilt, and zoom within the image. *(See Fig. 4)* In addition, the Solid PTZ function can be used in conjunction with motion detection, allowing users to monitor only areas where there is movement and to automatically track moving objects within the camera's field of view.
The cropping function allows users to freely crop portions of the full-resolution megapixel image to accentuate a monitoring area or to remove areas that do not need to be monitored. *(See Fig. 5)*

Fig. 4
Solid PTZ Function GUI
(Image simulated)

Camera's Field of View

Date/Time Superimposition

The date and time of images recorded by these cameras can be superimposed on the video while it is being monitored and recorded. This makes it easy to identify the exact date and time of an event during playback. Also, because the information becomes part of the video image, it is a useful feature when providing video evidence to authorities. In addition, up to 20 characters on a single line can be used to display further information such as the monitoring location and the camera name.

Privacy Zone Masking

These cameras can mask up to seven unwanted or prohibited areas within an image for privacy protection.

Analog Composite Video Output

An analog composite video signal can be output via the BNC connector. This feature is ideal for storing images to a local recorder.

24 V AC, 12 V DC, or PoE Operation

These cameras offer a choice of three types of power: 24 V AC, 12 V DC, or PoE (Power-over-Ethernet, IEEE 802.3af). They automatically adapt to whichever power source is used, making installation fast and effective.

Network Features

- Simultaneous Access for up to 10 Users
- Multicasting Capability

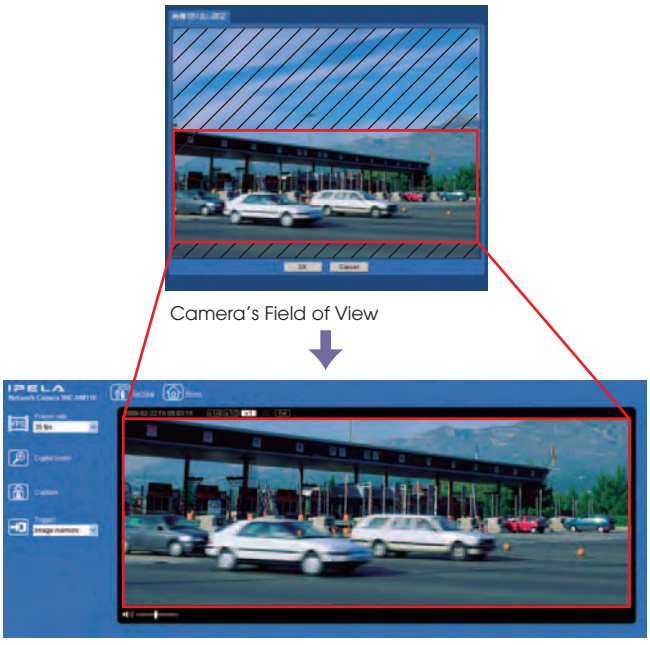
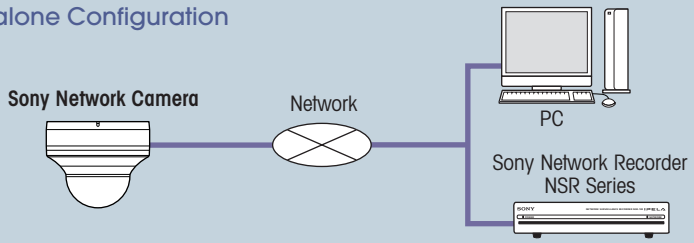


Fig. 5
Cropping Function GUI

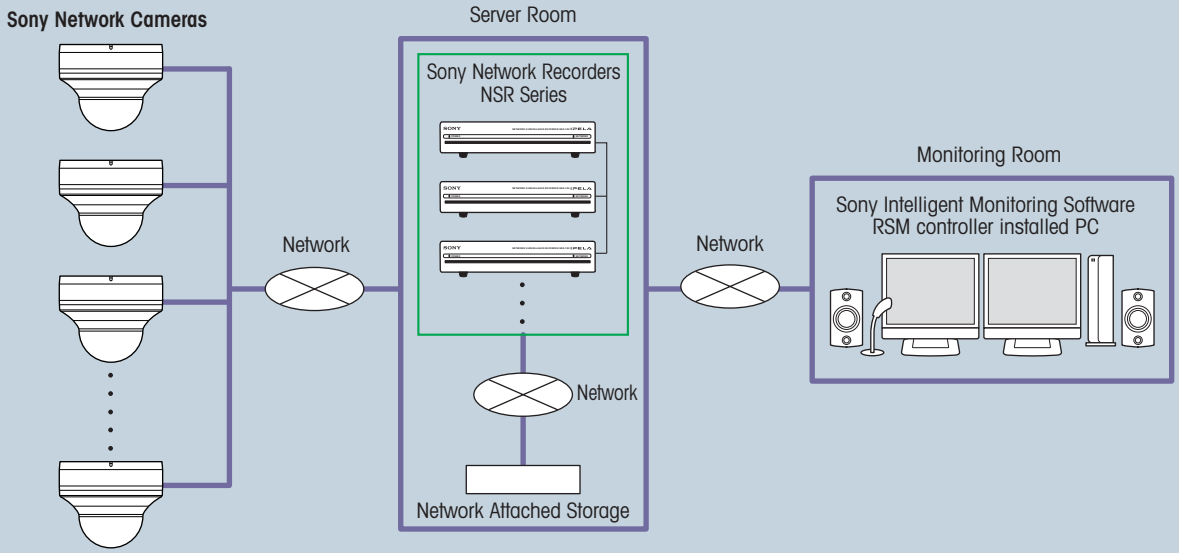
(Image simulated)

SYSTEM CONFIGURATIONS

Stand-alone Configuration

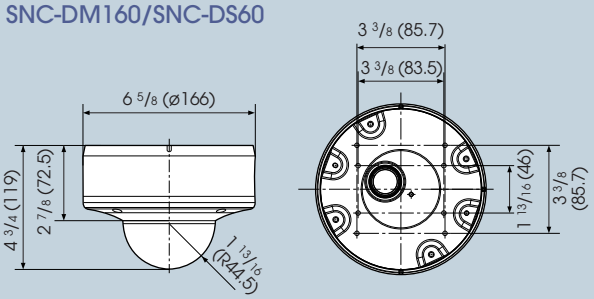


Client-server Configuration

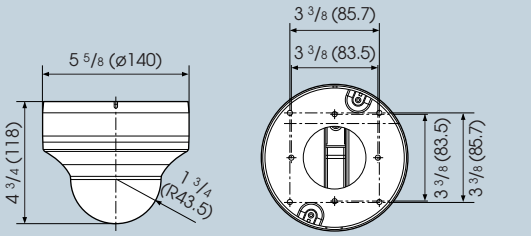


DIMENSIONS

SNC-DM160/SNC-DS60



SNC-DM110/SNC-DS10



Unit: inches (mm)

OPTIONAL ACCESSORIES

YT-ICB45
In-Ceiling Mount Bracket

SPECIFICATIONS

		SNC-DM160	SNC-DM110	SNC-DS60	SNC-DS10
Camera					
Image device		1/3-type Progressive Scan CCD with ExwavePRO Technology		1/4-type Progressive Scan CCD with ExwavePRO Technology	
Number of total pixels		Approx. 1,320,000		Approx. 350,000	
Number of effective pixels (H x V)		Approx. 1,250,000 (1296 x 966)		Approx. 330,000 (659 x 494)	
Electronic shutter		1 to 1/10,000 s			
Automatic gain control (AGC)		On/Off (0 dB to +36 dB)			
Exposure control		Auto, Backlight compensation, Gamma settings			
White balance modes		ATW, ATW Pro			
Lens type		Vari-focal lens			
Zoom ratio		3.6x optical zoom (2x digital zoom)	3.4x optical zoom (2x digital zoom)	3.6x optical zoom (2x digital zoom)	
Horizontal viewing angle		100.8 to 27°	100.3 to 29°	73 to 20°	
Focal length		f=2.8 to 10.0 mm	f=2.8 to 9.5 mm	f=2.8 to 10.0 mm	
F-number		F1.3 (wide), F3.0 (tele)	F1.3 (wide), F2.9 (tele)	F1.3 (wide), F3.0 (tele)	
Minimum object distance		300 mm			
Image					
Image size (H x V)					
	JPEG	1280 x 960, 960 x 720, 768 x 576, 640 x 480, 384 x 288, 320 x 240		768 x 576, 640 x 480, 384 x 288, 320 x 240	
	MPEG-4	640 x 480, 384 x 288, 320 x 240			
Maximum frame rate		30 fps (640 x 480), 15 fps (1280 x 960, 768 x 576)		30 fps (640 x 480, 768 x 576)	
Audio					
Audio compression		G.711/G.726 (40, 32, 24, 16 Kb/s)			
Network					
Protocols		TCP/IP, HTTP, ARP, ICMP, FTP, SMTP, DHCP, SNMP, DNS, NTP, RTP/RTCP, UDP			
Number of clients		10			
Authentication		IEEE802.1X			
Interface					
Ethernet		10Base-T/100Base-TX (RJ-45)			
Analog video output		BNC x1, 1.0 Vp-p, 75 Ω, RCA x 1			
I/O port		Sensor in x 1, Alarm out x 2			
External microphone input/Line input		Mini-jack x1 (Mic in: monaural, 2.2 kΩ, DC 2.5 V plug-in power, Line in: monaural)			
Audio line output		Mini-jack (monaural), max output level: 1 Vrms			
Analog video output					
Horizontal resolution		600 TV lines		400 TV lines	
S/N ratio		more than 50 dB			
Minimum illumination		Color: 0.8 lx (50IRE, F1.3, AGC 30dB) B/W: 0.15 lx (50IRE, F1.3, AGC 30dB)	Color: 0.8 lx (50IRE, F1.3, AGC 30dB)	Color: 0.3 lx (50IRE, F1.3, AGC 36dB) B/W: 0.05 lx (50IRE, F1.3, AGC 36dB)	Color: 0.3 lx (50IRE, F1.3, AGC 36dB)
General					
Weight		approx. 3 lb 1 oz (1.4 kg)	approx. 1 lb 11 oz (780 g)	approx. 3 lb 1 oz (1.4 kg)	approx. 1 lb 11 oz (780 g)
Dimensions (ø x H)		approx. 6 5/8 x 4 3/4 inches (166 x 119 mm)	approx. 5 5/8 x 4 3/4 inches (140 x 118 mm)	approx. 6 5/8 x 4 3/4 inches (166 x 119 mm)	approx. 5 5/8 x 4 3/4 inches (140 x 118 mm)
Power requirements		PoE (IEEE-802.3af)/AC 24 V/DC 12 V			
Power consumption		15 W max.	8 W max.	15 W max.	7.5 W max.
Operating temperature		-22 to 122 °F (-30 to 50 °C)	32 to 122 °F (0 to 50 °C)	-22 to 122 °F (-30 to 50 °C)	32 to 122 °F (0 to 50°C)
Storage temperature		-4 to 140 °F (-20 to 60 °C)			
System requirements					
Operating system		Microsoft® Windows VISTA® or Microsoft Windows XP			
Processor		Intel Pentium IV, 3 GHz or higher, Intel Core2 Duo, 2 GHz or higher		Intel Pentium IV, 2.4 GHz or higher, Intel Core2 Duo, 1.8 GHz or higher	
Memory		RAM: 1 GB or more			
Web browser		Microsoft Internet Explorer Ver. 7.0/6.0			
Supplied accessories					
		CD-ROM (User's guide, IP setup program, Audio Upload Tool, Privacy Masking Tool, Video Player, Custom Homepage Installer), Installation manual, Bracket, Template, Torx wrench, M4 screws (4), Wire rope, M4 shoulder screw, Audio cable, I/O cable, LAN cable, BNC cable, Power input cable	CD-ROM (User's guide, IP setup program, Audio Upload Tool, Privacy Masking Tool, Video Player, Custom Homepage Installer), Installation manual, Bracket, Template, M4 screws (2), Wire rope, M4 shoulder screw, Audio cable, I/O cable, LAN cable, BNC cable, Power input cable	CD-ROM (User's guide, IP setup program, Audio Upload Tool, Privacy Masking Tool, Video Player, Custom Homepage Installer), Installation manual, Bracket, Template, Torx wrench, M4 screws (4), Wire rope, M4 shoulder screw, Audio cable, I/O cable, LAN cable, BNC cable, Power input cable	CD-ROM (User's guide, IP setup program, Audio Upload Tool, Privacy Masking Tool, Video Player, Custom Homepage Installer), Installation manual, Bracket, Template, M4 screws (2), Wire rope, M4 shoulder screw, Audio cable, I/O cable, LAN cable, BNC cable, Power input cable

This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit. (http://www.openssl.org/)
This product includes cryptographic software written by Eric Young. (eay@cryptsoft.com)

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