VCC-9400 / VCC-ZM400

Specifications

MODEL	VCC-9400
Scanning system	NTSC standard (525 lines, 60 fields / sec.)
Image sensor	1/4" interline transfer method CCD
Picture elements	Total: 811 (H) x 508 (V), Effective: 768(H) x 494(V)
Horizontal resolution	Over 520 TV lines
Lens	22 power zoom lens, f = 3.6 to 79.2 mm (F1.6 to 3.8), Electronic zoom and gearing, zoom speed setting possible
Electronic zoom	16 power (combined with optic zoom give 352 power max.), zoom magnification setting possible
Auto focus	AUTO / ONE-PUSH / MANUAL, AF area setting possible (3 sizes)
Iris control	AUTO / MANUAL
Synchronization method	Internal synchronization / Line lock
Minimum illumination	Color mode: 1.2 lx (F1.6) at max. AGC gain, 0.04 lx (F1.6) at x32 electronic sensitivity boost [50 IRE] 0.5 lx (F1.6) at max. AGC gain, 0.015 lx (F1.6) at x32 electronic sensitivity boost [20 IRE] B/W mode: 0.06 lx (F1.6) at max. AGC gain, 0.002 lx (F1.6) at x32 electronic sensitivity boost [50 IRE]
Faceplate illumination	Color mode: 0.1 lx (F1.6) at max. AGC gain, 0.0035lx (F1.6) at x32 electronic sensitivity boost [50 IRE] B/W mode: 0.005 lx (F1.6) at max. AGC gain, 0.0002 lx (F1.6) at x32 electronic sensitivity boost [50 IRE]
S/N	More than 52 dB
Backlight compensation	Multi-zone photometry / 5 section photometry / Multi-zone masking
Electronic shutter	Fast shutter speed mode: 1/60, 1/100, 1/250, 1/500, 1/1000,1/2000, 1/4000, 1/10000, Slow shutter speed mode: x2, x4, x8, x16, x32
Electronic sensitivity boost	AUTO / OFF, works with auto iris
White balance	ATW / AWC / MWB
Automatic gain control	ON / OFF / MANUAL
Motion detector	ON / OFF, individual settings possible
Aperture	H / V setting possible
Privacy masking	ON / OFF, max. 8 masks (wide view screen, 1 screen max. 4 masks), password lockable
Alarm input/output	8 external inputs, 2 external outputs, Motion detector with external alarm AND/OR output options
Mirror image effect	Horizontally (H), vertically (V), horizontally and vertically (VH)
Character display	ON / OFF, screen titles and camera ID max. 8 characters each
View setting	9 settings
Auto mode	Sequential pan / Auto pan / Tour (2 tour recordings, 30 seconds each)
Rotation range	Horizontal: 360° endless, Vertical: 0 to 180° (digital auto flip)
Rotation speed	Horizontal: 360°/second (preset), 0.5 to 120° (manual), Vertical: 360°/second (preset), 0.5 to 120° (manual)
Preset position setting	64 settings
Communications	Coaxial control, RS-485
Operational temperature/humidity	Temperature: +14° to +122°F [−10° to +50°C], Humidity: below 90% RH
Power source	24 VAC, 60 Hz
Power consumption	15 W
Weight	2.5 kg [88.1 oz]

MODEL	VCC-ZM400
Scanning system	NTSC standard (525 lines, 60 fields / sec.)
Image sensor	1/4" interline transfer method CCD
Picture elements	Total: 811 (H) x 508 (V), Effective: 768 (H) x 494(V)
Horizontal resolution	Over 520 TV lines
Lens	22 power zoom lens, f = 3.6 to 79.2 mm (F1.6 to 3.8), Electronic zoom and gearing, zoom speed setting possible
Electronic zoom	16 power (combined with optic zoom give 352 power max.), zoom magnification setting possible
Auto focus	AUTO / ONE-PUSH / MANUAL, AF area setting possible (3 sizes)
Iris control	AUTO / MANUAL
Synchronization method	Internal synchronization / Line lock
Minimum illumination	Color mode: 1.2 lx (F1.6) at max. AGC gain, 0.04 lx (F1.6) at x32 electronic sensitivity boost [50 IRE] 0.5 lx (F1.6) at max. AGC gain, 0.015 lx (F1.6) at x32 electronic sensitivity boost [20 IRE] B/W mode: 0.06 lx (F1.6) at max. AGC gain, 0.002 lx (F1.6) at x32 electronic sensitivity boost [50 IRE]
Faceplate illumination	Color mode: 0.1 lx (F1.6) at max. AGC gain, 0.0035lx (F1.6) at x32 electronic sensitivity boost [50 IRE] B/W mode: 0.005 lx (F1.6) at max. AGC gain, 0.0002 lx (F1.6) at x32 electronic sensitivity boost [50 IRE]
S/N	More than 52 dB
Backlight compensation	Multi-zone photometry / 5 section photometry / Multi-zone masking
Electronic shutter	Fast shutter speed mode: 1/60, 1/100, 1/250, 1/500, 1/1000,1/2000, 1/4000, 1/10000, Slow shutter speed mode: x2, x4, x8, x16, x32
Electronic sensitivity boost	AUTO / OFF, works with auto iris
White balance	ATW / AWC / MWB
Automatic gain control	ON / OFF / MANUAL
Motion detector	ON / OFF, individual settings possible
Aperture	H / V setting possible
Privacy masking	ON / OFF, max. 4 masked locations, password lock possible
Alarm input/output	1 alarm input (for external alarm switch), 1 alarm output (for sending signal to system controller or alarm detection device such as a buzzer)
Mirror image effect	Horizontally (H), vertically (V), horizontally and vertically (VH)
Character display	ON / OFF, camera ID max. 16 characters
View setting	9 settings
Communications	Coaxial control, RS-485
Operational temperature/humidity	Temperature: +14° to +122°F [−10° to +50°C], Humidity: 35 to 90% RH
Power source	24 VAC, 60 Hz / 12 to 15 VDC
Power consumption	4.5 W
Weight	380 g [13.4 oz]

NOTE: Specifications subject to change without notice.

Privacy Masking
When there is a house or even an object as small as a window within the camera frame, it is possible to mask the area so that it will not appear on the monitor screen to protect other people's privacy. Up to 4 rectangular masks of arbitrary size can be set per screen (or as many as 8 using the VCC-9400 when screens are stacked). These masked areas may be protected with passwords (maximum 4 digits).

Note:
Images here may differ from actual camera-generated images.

Easy On-screen Setup and Customizing of Default Settings
Both the VCC-9400 and VCC-ZM400 can be programmed on-screen and operated using a controller with SANYO's Security Serial Protocol (SSP). Moreover, as an added bonus, with the VCC-ZM400 you can even program and customize default and other settings using the cursor and menu setting buttons integrated into the rear panel of the camera.
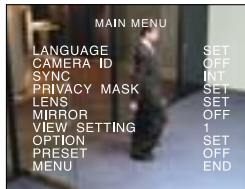
Intelligent Digital Motion Detector
The intelligent digital motion detector enables reliable and accurate motion detection by analysing the "magnitude of movement" and the "size of object" and other factors from changes in picture brightness. When a moving object is detected, the VCC-9400 can send an alarm signal and/or switch to optical zoom of 1.4X to 6X. Scene elements such as swaying trees and flickering lights, etc., can also be masked to prevent triggering of false alarms.

Zoom range from 1.4X to 6X

Note:
Images here may differ from actual camera-generated images.

32X Sensitivity Boost for Minimum Illumination of 0.002 Lx
While achieving 0.06 lx minimum subject illumination at maximum gain, sensitivity can be further heightened to 32X for 0.002 lx minimum illumination when the sensitivity boost function is activated at 50 IRE (F1.6). [B/W mode]

Built-in Electronic Shutter
A high-speed electronic shutter that is internally switchable for eight modes using a DIP switch allows adjustment increments from 1/60 to 1/10,000 sec.
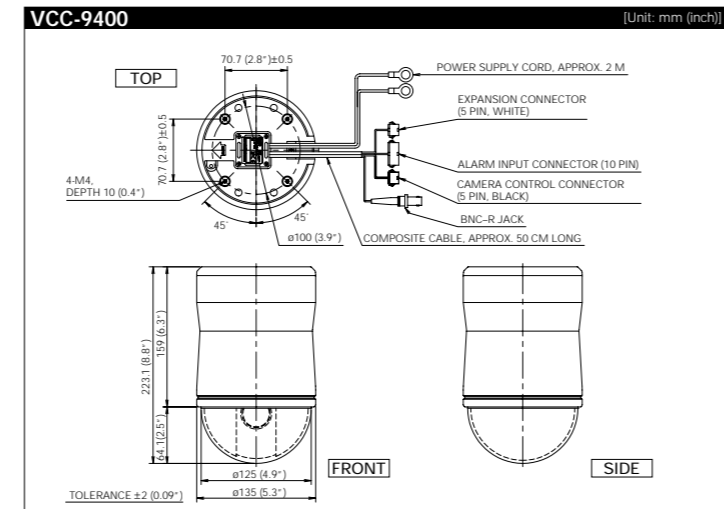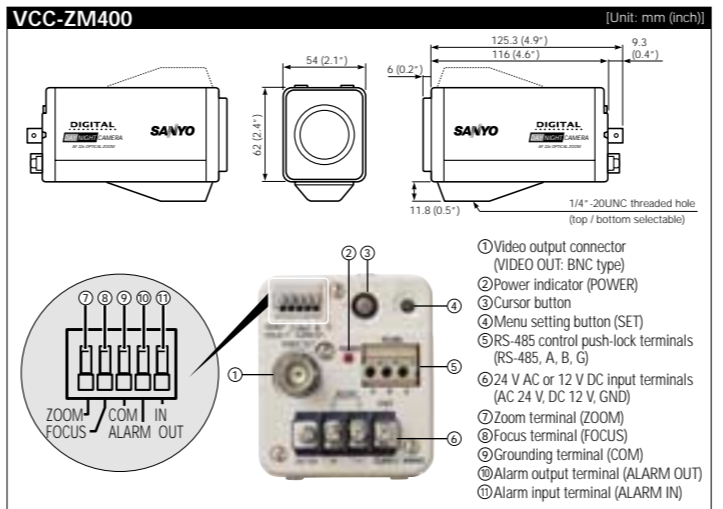
Other useful features
- Adjustable gamma correction and aperture settings
- Display of assignable camera ID and titles (16 characters max.)

Dimensions

VCC-9400 [Unit: mm (inch)]

VCC-ZM400 [Unit: mm (inch)]

① Video output connector (VIDEO OUT: BNC type)
② Power indicator (POWER)
③ Cursor button
④ Menu setting button (SET)
⑤ RS-485 control push-lock terminals (RS-485, A, B, G)
⑥ 24 V AC or 12 V DC input terminals (AC 24 V, DC 12 V, GND)
⑦ Zoom terminal (ZOOM)
⑧ Focus terminal (FOCUS)
⑨ Grounding terminal (COM)
⑩ Alarm output terminal (ALARM OUT)
⑪ Alarm input terminal (ALARM IN)

Video Imaging Systems Division of Sanyo Electric Co., Ltd. obtained Quality Management System ISO9001 and Environmental Management System ISO14001 certifications.

Caution: Please consult the instruction manual to ensure safe and proper operation of the product.

Distributed by:

SANYO

VCC-9400 Color (NTSC)
VCC-ZM400 Color (NTSC)

DIGITAL

1/4" Color CCD DSP High-resolution Day / Night Cameras

Day / Night Speed Dome Camera VCC-9400

DAY and NIGHT
One unit does both

520 TV Lines of Horizontal Resolution

352X Power Zoom Captures Up-Close Details

Day / Night Auto Focus Zoom Camera VCC-ZM400

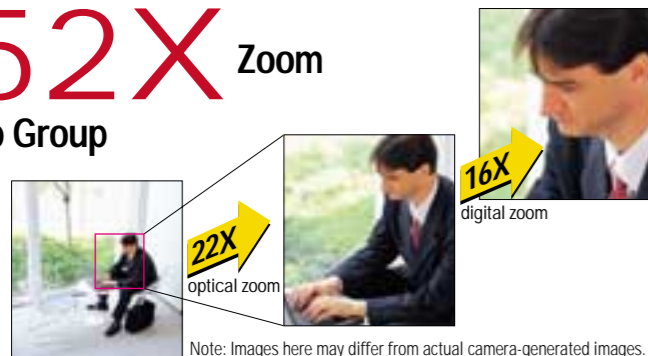# Greater Precision and Dependability in Surveillance Technology

Quality Features the SANYO Brand Is Known For. Extended Features Lending Greater Flexibility.

Super High Resolution of More than
520 TV Lines

Super High-resolution   Standard Resolution

With a built-in auto-focus zoom lens, the high-performance VCC-9400 and VCC-ZM400 allow for greater accuracy in monitoring of activities in a wide range of environments. This is combined with the superior clarity and sharpness of digital imaging achieved by SANYO's newly developed digital signal processing system for an industry-leading horizontal resolution of 520 TV lines.

### Maximum 352X Zoom
Function in the Top Group of Its Class

The 22X optical zoom and 16X digital zoom can be combined for close-ups at a magnification power of 352X.
This allows even distant subjects to be observed in detail, enabling one camera to monitor a wider area.

16X digital zoom
22X optical zoom

Note: Images here may differ from actual camera-generated images.

DAY / NIGHT
Both day and night use in the same camera

Proprietary auto-switching infrared cut filter

B/W mode   Colour mode IR cut filter ON   B/W mode

Lx

Time →
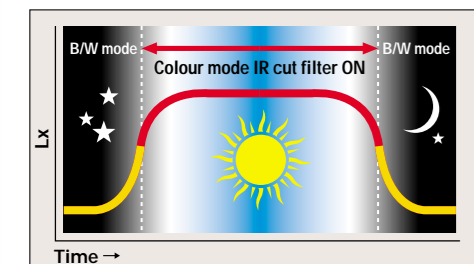
As the camera senses the amount of light in the viewing area, it automatically turns the IR CUT FILTER on and off as required. As more precise color reproduction is essential in the color operation mode, the filter is turned on. In the B/W mode, clear, bright images (to a minimum required illumination of 0.04 lx) are produced by switching the filter off and increasing light sensitivity.

Intelligent selectable switching for colour to B/W

The camera's sensitivity to exposed light allows it to automatically switch from color to B/W mode. The switchover point is selectable within the range of 1–10 lx (approx.) as required for specific applications, and the user is able to set the switchover point easily by OSD menu.

Effectively engineering all the capabilities of two CCD cameras into one, the NTSC system VCC-9400 / VCC- ZM400 are ideal 'all-in-one' cost-effective solutions for all surveillance needs.

Switchover point

B/W mode   Colour mode

1 lx   10 lx   (Approx.)
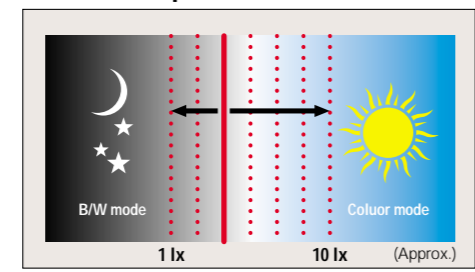
3 Methods of Intelligent Backlight Compensation

Three backlight compensation methods (multi-zone photometry, 5 section photometry and multi-zone masking) are preset selectable for measurement of center, peripheral or background elements of individual scenes providing sharp, true-color images in any light situation.

1) Multi-zone photometry (48 sections)
With multi-zone mode settings, light is measured in areas in the center and at the bottom of the image.

2) Five-section photometry mode setting
With the 5-section mode settings, the screen is divided into 5 sections to which the user assigns 8-scale weights so that optimum picture brightness is maintained by giving priority to the area with higher weight.

3) Multi-zone masking system (48 sections)
Areas that do not have photometric measurement performed can be set within a 48-zone grid. The light intensity for the designated area is measured, and the image brightness is adjusted accordingly.

Illustration of multi-zone masking system.

Functions Specific to the VCC-9400
Agile Camera Movements Realizing 360-degree Surveillance

64 Preset Positioning and Sequential Monitoring Functions
Up to 64 preset positions (with different settings for pan, tilt, zoom and focus) can be registered for a single VCC-9400. A simple key entry to a controller allows you to easily switch to the scene you want to monitor. Moreover, the camera can be programmed to monitor up to 64 preset positions in sequential order (including separate settings for white balance, iris and motion sensing for each preset). Auto-pan monitoring can be also be programmed by designating two end points on a horizontal plane.
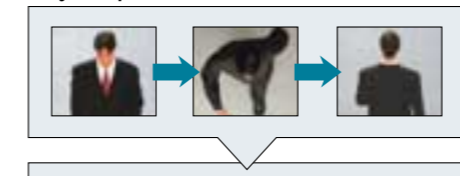
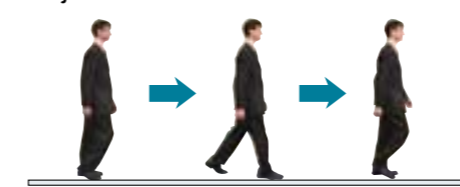Panning in random order between preset positions is also possible.

Auto Flip Function for Monitoring Moving Objects Directly Below
The camera within the dome will automatically flip the image (top/bottom or left/right) into an upright position using a digital processing technique as it tracks a subject passing directly below the dome. This feature allows uninterrupted monitoring of moving objects by simply rotating the camera 180° vertically.

Subject captured on monitor

Subject movement

Greater System Flexibility with Coax and Twisted-pair Control

SSP Control System
The VCC-9400 and VCC-ZM400 can be programmed and controlled via SANYO Security Serial Protocol (SSP), a communications method for interfacing between various components of a security video system, using different transmission media to lend greater flexibility to the configuration of surveillance and monitoring systems. These cameras can thus be effectively integrated into systems for desktop control using next-generation or existing peripheral devices connected by coaxial and/or twisted-pair cabling.

Main monitor

RS-485

SSP System Controller
VSP-8000

Multiplexer
MPX-CD163
MPX-CD93

Coaxial

Digital

Zoom Camera
VCC-ZM400

Dome Camera
VCC-9400

Digital Video Recorder
DSR-3000

Spot monitors

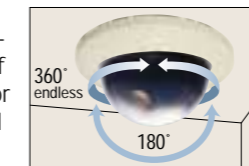### Tour Mode Stores and Replicates Manually Operated Patrols
Capable of storing up to 30 or 60 seconds of manual pan, tilt, and zoom operations in memory and recreate the same movement pattern as sequential setting. (The intelligent digital motion detector does not function while the camera is operating in this mode.)

Illustration of movements traced on a display floor.

VCC-9400
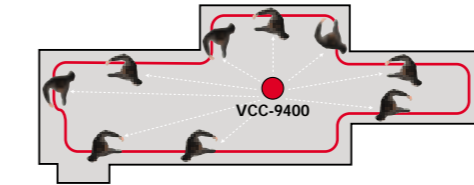
Variable Speed Pan and Tilt
Providing endless panning over 360˚ in the horizontal plane and 180˚ of tilt in the verti-cal, the camera can be moved at variable speeds (0.1˚ to 120˚ per second for horizon-tal and vertical planes) by joystick or by pan/tilt to scenes designated for monitor-ing. When preset positions have been entered, it offers the capability to swiftly pan tilt at a maximum speed of 360˚ per sec. between monitoring positions, or immediately respond by show-ing the location of an external sensor that has triggered an alarm.

360˚ endless

180˚

8 Alarm Inputs
The VCC-9400 comes with eight alarm inputs. Alarm signals will activate the camera to automatically focus on preset locations corresponding to the alarm received.
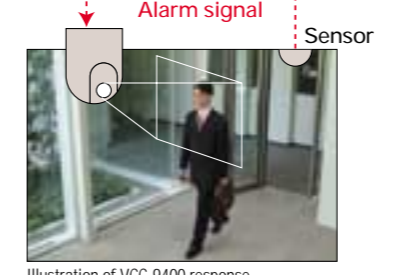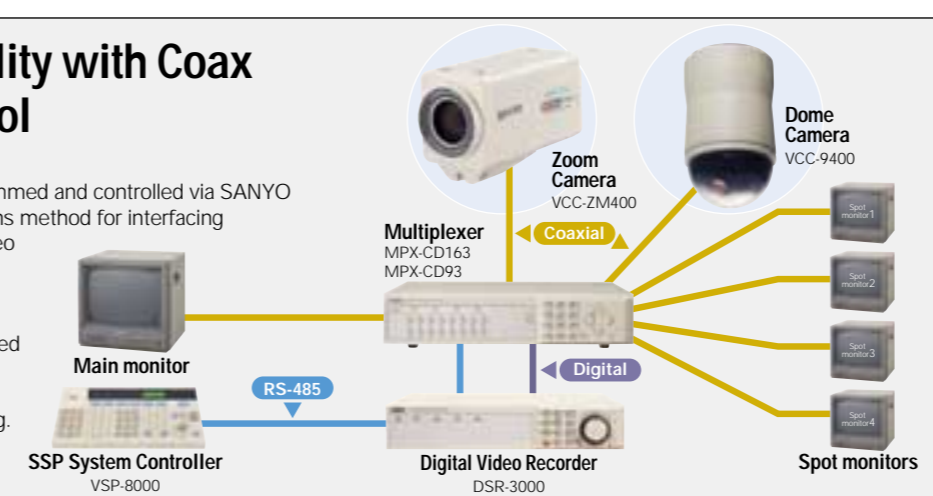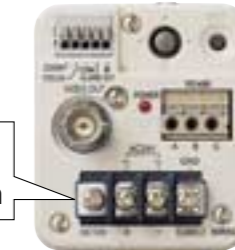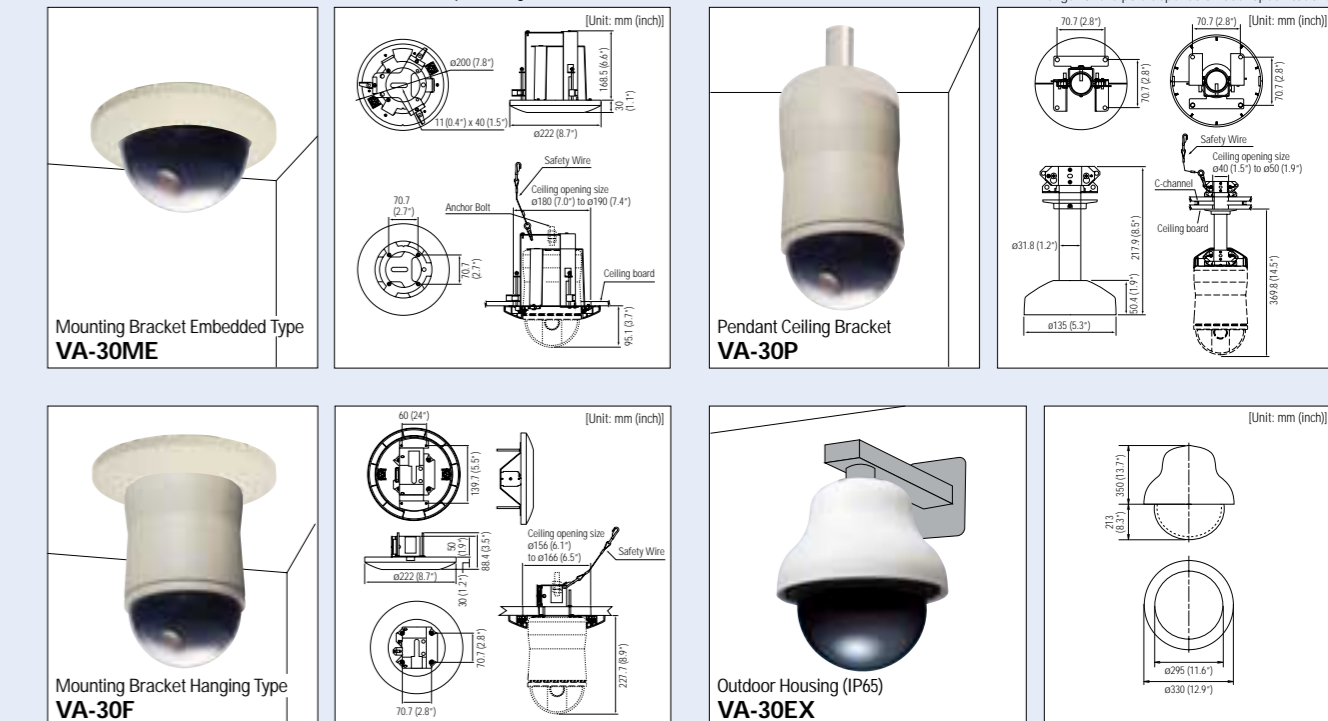
Alarm signal

Sensor

Illustration of VCC-9400 response to external sensor.

Specific to the VCC-ZM400
AC / DC Power Source Compatibility

Input terminals on the VCC-ZM400's rear panel allow you to run it on either 24 V alternating or 12 V direct current power sources. Eliminates the need for specialized electrical work at the point of surveillance to help enable simpler and speedier installation.

24 V AC / 12 V DC
Dual Power Source Operation

VCC-9400 Accessories (sold separately)

Length of the pole depends on user specifications.

Mounting Bracket Embedded Type
VA-30ME

Pendant Ceiling Bracket
VA-30P

Mounting Bracket Hanging Type
VA-30F

Outdoor Housing (IP65)
VA-30EX

[Unit: mm (inch)]

Outdoor Housing Brackets

Ceiling Bracket
VA-30I

Wall Bracket
VA-30T

Parapet Bracket
VA-30J

Pole Mount Adaptor
VA-30HA

Corner Mount Adaptor
VA-30VA

[Unit: mm (inch)]

Note: Images produced by the camera may differ slightly from those appearing here.