



*i-VMD Type2 : Intruder Detection / Loitering Detection / Direction Detection / Scene Change Detection / Object Detection / Cross Line Detection

Full HD / 1,920 x 1,080 60 fps H.264 Vandal Resistant Network Camera featuring Super Dynamic

Key Features

- **1080p** Full HD images up to **60 fps**^{*1}
- Approximate 1/3 inches, high sensitivity MOS image sensor
- **Multiple H.264 (High profile) streams (max. 4 streams)** and JPEG streams ensure simultaneous real time monitoring and high resolution recording.
- Maximum Screen Size is 2,048 x 1,536* @30fps, H.264
* Used by super resolution techniques
- **Enhanced Super Dynamic**^{*1} and ABS (Adaptive Black Stretch) technologies deliver **133 dB** wider dynamic range compared to conventional cameras.
- **Smart coding Technology : Group of Pictures (GOP) control** function removes unnecessary information from the frame for realizing efficient encoding.
Auto VIQS (Variable Image Quality on Specified area) function recognizes the no movement area in a video automatically and lowering the resolution of it to reduce the data size.
With the latest bit rate reducing technology, **GOP control**, **Auto VIQS**, **3D-MNR** (Multi process Noise Reduction) and **FD** (Frequency Divided Filter), the network bandwidth and the disk space of recorder can be saved.
- High sensitivity with Day/Night (ICR*) function:
0.07 lx (Color), 0.01 lx (B/W) at F1.6 *ICR: IR Cut filter Removal
- **ABF (Auto Back Focus)** ensures easy installation.
- **VIQS** (Variable Image Quality on Specified area) technology allows the designated **eight areas** to retain higher image quality while the excluded area will have a decreased image quality, which enables to use lower image file size and bit rate.
- Cropping function enables to provide whole image and the part image simultaneously. Up to 4 image capture areas can be specified, and it is also possible to control the sequence.
- **Face Super Dynamic** technology ensures clear face image.
- Lens distortion compensation for the distorted images can be adjusted 256 steps.
- Selectable light control modes:
Outdoor scene, Indoor scene (50 Hz) / Indoor scene (60 Hz), Fix shutter
Indoor scene (50 Hz/60Hz): Flicker caused by fluorescent lightning will be automatically compensated.
- 3x extra optical zoom at 640 x 360 resolution
- 2x, 4x digital zoom controlled by browser
- **VMD (Video Motion Detection)** with 4 programmable detection areas, 15 steps sensitivity level and 10 steps detection size
- Privacy Zone can mask up to 8 private areas, such as house windows and entrances/exits.
- Alarm sources including 3 terminal input, VMD and Panasonic alarm command can trigger actions such as SDXC/SDHC/SD memory recording, FTP image transfer, E-mail notification, Indication on browser, Alarm terminal output, and Panasonic alarm protocol output.
- Full duplex bi-directional audio allows interactive communication between camera site and monitoring site.
- Prioritized stream control: One of the video streams can be prioritized when multiple recorders or client PCs are accessing the camera so that the recorder or the client PC can maintain the frame rate.
- **SDXC/SDHC/SD Memory card slot** for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (H.264 / JPEG). Realize long-term recording and auto backup function.
- Face detection function detects the position of human face and the information is sent by XML or video stream. (Optional)
- Can be added new intelligent extension software (Optional) in addition to built-in VMD (Video Motion Detection), alarm function.
- **Fog compensation function** equipped as standard.
- **HLC (High Light Compensation)** technology reduces strong light sources such as vehicle headlights to prevent camera being blinded.
- **SCC (Super Chroma Compensation)** function realizes a better color reproducibility even in low illumination.
- H.264 max. bit rate/client and Total bit rate control allows flexible network traffic management.
Frame rate priority mode controls bit rate and compression ratio to provide the specified frame rate.
- Internet mode: H.264 images can be transmitted over HTTP protocol.
- Multi-language: English / Italian / French / German / Spanish / Portuguese / Russian / Chinese / Japanese
- Supports SSL, DDNS (viewnetcam, RFC2136)
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard, Type 4X(UL50), NEMA 4X compliant.
- Dehumidification device for use with various weather conditions
- Vandal resistant mechanism for high reliability

*1 Super Dynamic function is automatically set off on 60 fps mode.

Optional Accessories

| | | | |
|--|---|--|---|
| Ceiling Mount Bracket WV-Q169A | Smoke Dome Cover WV-CW7S | Sun Shade WV-Q7118 | |
| Ceiling Mount Bracket WV-Q105A | Ceiling Mount Bracket WV-Q121B | Wall Mount Bracket WV-Q122A | Mount Bracket WV-Q124 |
| | (Use with the WV-Q124 (suspension mount bracket) to be able to install on a ceiling.) | (Use with the WV-Q124 (suspension mount bracket) to be able to install on a wall.) | (Use when installing the WV-SFV531 using the WV-Q122A.) |

* For Indoor installation only

Specifications

| | | | | |
|--------------------------|--|---|---|---|
| Camera | Image Sensor | Approx. 1/3 type MOS image sensor | | |
| | Scanning Mode | Progressive scan | | |
| | Scanning Area | 5.28 mm (H) x 3.30 mm (V) (7/32 inches (H) x 1/8 inches (V)) | | |
| | Minimum Illumination | Color: 0.07 lx, BW: 0.007 lx (F1.6, Maximum shutter: Max. 1/30s, Gain: On(High)) Color: 0.005 lx, BW: 0.0007 lx (F1.6, Maximum shutter: Max. 16/30s, Gain: On(High)) ¹⁾ | | |
| | White Balance | AWC (2,000 - 10,000 K), ATW1 (2,700 - 6,000 K), ATW2 (2,000 - 6,000 K) | | |
| | Light Control Mode | Outdoor scene: Automatic integration of ALC and ELC Indoor scene [50 Hz]: Automatic integration of ALC and ELC with flickerless Indoor scene [60 Hz]: Automatic integration of ALC and ELC with flickerless | | |
| | Shutter Speed | [2 mega pixel [16 : 9] (60 fps mode)] Off(1/60), 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 Other than [2 mega pixel [16 : 9] (60 fps mode)] Off(1/30), 3/100, 3/120, 2/100, 2/120, 1/100, 1/120, 1/250, 1/500, 1/1000, 1/2000, 1/4000, 1/10000 | | |
| | Super Dynamic ²⁾ | On(High) / On(Normal) / Off | | |
| | Face Super Dynamic | On / Off (Only when Super Dynamic : On) | | |
| | Adaptive Black Stretch | On / Off (Only when Super Dynamic : Off) | | |
| | Fog compensation | On / Off (Only when Super Dynamic / Adaptive black stretch : Off) | | |
| | AGC | On (Low) / On (Mid) / On (High) / Off | | |
| | Electronic Sensitivity UP | max. 1/1000 s, max. 1/500 s, max. 1/250 s, max. 1/120 s, max. 1/100 s, max. 1/60 s, max. 1/30 s, max. 2/120 s, max. 2/100 s, max. 2/30 s, max. 4/30 s, max. 6/30 s, max. 10/30 s, max. 16/30 s | | |
| | Day/Night (ICR) | Off / On / Auto1 (Normal) / Auto2 (IR Light) / Auto3 (SCC) | | |
| | Dynamic Range | 133 dB typ. (Super Dynamic : On, Light Control Mode : indoor) | | |
| | Digital Noise Reduction | High / Low | | |
| | Video Motion Detection | 4 areas, Sensitivity : 15 steps, Detection size : 10 steps | | |
| | Privacy Zone | Up to 8 zones | | |
| | VIQS | Up to 8 zones | | |
| | Camera Title (OSD) | Up to 20 characters (alphanumeric characters, marks) | | |
| | Focus Adjustment | ABF / MANUAL (Html only) | | |
| | Lens Distortion Compensation | 256 steps | | |
| | Vari Focal Length | 2.8 - 9.5 mm (1/8 inches - 13/32 inches) | | |
| | Angular Field of View | [16 : 9 mode] Horizontal : 31° (TELE) - 109° (WIDE) Vertical : 18° (TELE) - 59° (WIDE) [4 : 3 mode] Horizontal : 26° (TELE) - 89° (WIDE) Vertical : 20° (TELE) - 66° (WIDE) | | |
| | Maximum Aperture Ratio | 1 : 1.6 (WIDE) - 1 : 3.3 (TELE) | | |
| Focusing Range | 0.3 m - ∞ | | | |
| Adjusting Angle | Horizontal : ±180°, Vertical : ±85°, Image tilt adjustment range : -100° (Left) to +100° (Right) | | | |
| | H.264(1) / H.264(2) / H.264(3) / H.264(4) / H.264(all) / JPEG(1) / JPEG(2) / JPEG(3) Up to 4 image capture areas can be specified | | | |
| | Camera Control | Brightness, AUX On / Off | | |
| | Display Mode | Spot, Quad : Image from 16 cameras can be displayed in 4 different Quad screens or 16 split screen (JPEG only), 20 characters camera title available. | | |
| | Digital Zoom | 1x, 2x, 4x controlled by browser GUI | | |
| | Camera Title | Up to 20 alphanumeric characters | | |
| | Clock Display | Time : 12H/24H, Date : 5 formats on the browser, Summer time (Manual) | | |
| | Alarm Control | Reset | | |
| | One Shot Capture | A still picture will be displayed on a newly opened window. | | |
| | Audio | Mic (Line) Input : On / Off Volume adjustment : Low / Middle / High Audio Output : On / Off Volume adjustment : Low / Middle / High | | |
| | SD Memory Data Download | Still or motion images recorded in the SDXC/SDHC/SD memory card can be downloaded. | | |
| | GUI / Setup Menu Language | English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese | | |
| | System Log | Up to 100 (Internal) | | |
| | Supported OS ³⁾ | Up to 4,000 SDXC/SDHC/SD memory when the recording format is set to JPEG, error logs Microsoft® Windows® 10, Microsoft® Windows® 8.1, Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista® | | |
| | Supported Browser | Windows® Internet Explorer® 11 (32-bit), Windows® Internet Explorer® 10 (32-bit), Windows® Internet Explorer® 9 (32-bit), Windows® Internet Explorer® 8 (32-bit), Windows® Internet Explorer® 7 (32-bit), Safari®, Google Chrome®, Mozilla Firefox® * with limitations in the part of setting screen | | |
| | Network | Network IF | 10Base-T / 100Base-TX, RJ45 connector | |
| | | Image Resolution | • 2 mega pixel [16 : 9] (30/60 fps) 1,920 x 1,080 / 1,280 x 720 / 640 x 360 / 320 x 180 / 160 x 90 • 2 mega pixel [4 : 3] (30 fps) 1,600 x 1,200 / 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120 • 3 mega pixel [4 : 3] (30 fps) 2,048 x 1,536 / 1,280 x 960 / 800 x 600 / 640 x 480 / 400 x 300 / 320 x 240 / 160 x 120 * Used by super resolution techniques | |
| | | H.264 ⁴⁾ | Transmission Mode | Constant bit rate / Variable bit rate / Framerate priority / Best effort / Advanced VBR |
| | | | Frame Rate | 1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 / 60 fps |
| | | | Bit Rate/Client | 64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 6,144 / 8,192 / 10,240 / 12,288 / 14,336 / 16,384 / 20,480 / 24,576 kbps |
| | | | Image Quality | Low / Normal / Fine |
| | | | Smart Coding mode | On (Low / Mid / High) / Off (Only when "Variable bit rate" is selected) |
| | | JPEG | Refresh interval | 0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5s |
| | | | Transmission Type | Unicast / Multicast |
| | | | Image Quality | 10 steps |
| Refresh interval | | | 0.1 fps - 30 fps (JPEG frame rate will be restricted when displaying both JPEG and H.264 images.) | |
| Transmission Type | | | Pull / Push | |
| Audio Compression | | G.726 (ADPCM) 32 kbps / 16 kbps, G.711 64 kbps / AAC-LC | | |
| Audio Mode | | Off / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex) | | |
| Authentication for Audio | | Level 1 only / Level 2 higher / All users | | |
| Total Bit Rate | | 64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 / 4,096 / 6,144 / 8,192 kbps / Unlimited | | |
| Supported Protocol | | IPv6 : TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, RTP, MLD, ICMP, ARP, DiffServ IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTSP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP, DiffServ | | |
| FTP Client | | Alarm image transmission, FTP periodic transmission (When the FTP transmission is failed, backup on an optional SDXC/SDHC/SD memory card is available.) | | |

| | | | |
|----------------|-----------------------------------|---|---|
| Network | No. of Simultaneous Users | Up to 14 users (Depends on network conditions) | |
| | SDXC/SDHC/SD Memory Card (Option) | H.264 recording : Manual REC / Alarm REC (Pre/Post) / Schedule REC / Backup upon network failure JPEG recording : Manual REC / Alarm REC (Pre/Post) / Backup upon network failure Compatible SD (SDHC/SDXC) card : Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB** model *SDHC card, **SDXC card (except miniSD card and microSD card) | |
| | Cellular Phone Compatibility | JPEG image, AUX control (by access level) | |
| | Mobile Terminal Compatibility | iPad, iPhone, iPod touch (iOS 4.2.1 or later), Android™ mobile terminals | |
| | Alarm Source | 3 terminals input, VMD, Command alarm, Audio detection alarm | |
| | Alarm Actions | SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification Indication on browser, FTP image transfer, Panasonic protocol output | |
| | Alarm Log | With SDXC/SDHC/SD memory card : Up to 50,000 logs for each SD memory card Schedule : Alarm / VMD / Access permission / H.264 recording / Scene file | |
| | Input/ Output | Monitor Output (for adjustment) | VBS : 1.0 V (p-p)/75 Ω, ø3.5mm mini jack MONITOR OUT conversion plug included |
| | | Microphone/Line Input | MIC IN and Line IN are selectable, ø3.5 mm monoaural mini jack (monoaural input) (Applicable microphone : Plug-in power type) Supply voltage : 2.5 V ±0.5 V, Input impedance : Approx. 2 kΩ (unbalanced) |
| | | Audio Output | ø3.5 mm stereo mini jack (monoaural output) Output impedance : Approx. 600 Ω (unbalanced) |
| | External I/O Terminals | ALARM IN 1(DAY/NIGHT IN), ALARM IN 2(ALARM OUT), ALARM IN 3(AUX OUT) | |
| | General | Safety | UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1 |
| | | EMS | FCC (Part15 ClassA), ICES003 ClassA, EN55022 ClassB, EN55024 |
| | | Power Source and Power Consumption | DC power supply : DC12 V / 750 mA / Approx. 9 W PoE (IEEE802.3af compliant) Device : DC48 V / 210 mA / Approx. 10.1 W* (Class 0 device) * Maximum power consumption on the camera power input side. ** ONLY CONNECT DC12 V CLASS 2 POWER SUPPLY. |
| | | Ambient Operating Temperature | -40 °C to +50 °C (-40 °F to 122 °F) |
| | | Ambient Operating Humidity | 10 to 90 % (no condensation) |
| | | Impact Protection | IEC 60068-2-75 test Eh, 50J / IEC 62262 IK10 |
| | | Water and Dust Resistance | IP66, IEC60529 measuring standard compatible, Type 4X(UL50), NEMA 4X compliant |
| | | Shock Resistance | Compliant with 50J IEC60068-2-75 |
| | | Dimensions | ø164 mm x 139 mm (H) (ø6-15/32 inches x 5-15/32 inches (H)) * Installing using the base bracket Dome radius 42 mm (1-21/32 inches) |
| | | Mass (approx.) | With base bracket : Approx. 1.6 kg (3.53 lbs) Without base bracket : Approx. 1.2 kg (2.65 lbs) |
| | | Finish | Main body : Aluminum die cast, light gray Dome section : Clear polycarbonate resin |
| | | Others | Tamper-resistant enclosure ⁵⁾ |

¹⁾ Converted value

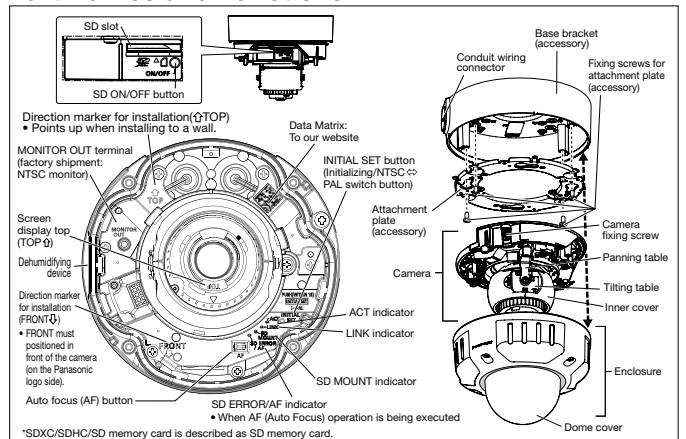
²⁾ Super Dynamic function is automatically set off on 60 fps mode.

³⁾ Refer to "Notes on Windows Vista® / Windows® 7 / Windows® 8 / Windows® 8.1 / Windows® 10" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 10 or Microsoft® Windows® 8.1 or Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

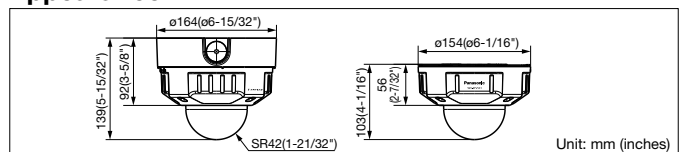
⁴⁾ Transmission for 4 streams can be individually set.

⁵⁾ Component that has a structure on which the screws that are accessible after installation can not be screwed or unscrewed using an ordinary screwdriver.

Part Names and Functions



Appearance



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Important

- Safety Precaution: Carefully read the Important Information, Installation Guide and operating instructions before using this product.
- Panasonic cannot be responsible for the performance of the network and/or other manufacturers' products used on the network.
- Masses and dimensions are approximate. • Specifications are subject to change without notice.

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