i-PRO SmartHD **5** Series NEW
Onvif | S G

SD ENHANCED Super Dynamic | VIQS Variable Image Quality on Specified area | H.264 JPEG | FULL HD Full High Definition 1080/60p | day/night ICR | HLC | Fog Compensation | Auto Back Focus | i-VMD (Optional) Type2

*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 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
- Super high resolution at Full HD/1,920 x 1,080 created by 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 by enhanced "UniPhier®", Panasonic's proprietary System LSI platform.
- Maximum Screen Size is 2,048 x 1,536* @30 fps, 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.
- **Multi process NR & 3D-DNR** ensures noise reduction in various conditions.
- High sensitivity with Day/Night (ICR*) function:
  0.07 lx (Color), 0.02 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 thedesignated **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.
- Electronic sensitivity enhancement: Auto (Up to 16/30s) / OFF
- 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.
- Camera title display: Up to 20 alphanumeric characters on the browser
- 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.
- JPEG Image compression ratio can be changed by alarm so that higher quality image can be provided.
- 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
- IPv4/IPv6 protocol supported
- Supports SSL, DDNS (viewnetcam, RFC2136)
- Still images (JPEG) can be viewed on mobile phones via Internet.
- Onvif compliant model

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

Optional Accessories

Ceiling Mount Bracket **WV-Q105A**	Ceiling Mount Bracket **WV-Q174B**	Smoke Dome Cover **WV-CF5SA**

Specifications

Camera	Image Sensor	Approx. 1/3 type MOS image sensor
	Effective Pixels	Approx. 2.4 mega pixels
	Scanning Mode	Progressive scan
	Scanning Area	5.28 mm (H) × 3.30 mm (V) {7/32 inches(H) x 1/8 inches(V) }
	Minimum Illumination	Color: 0.07 lx, BW: 0.01 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, Mid, 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

Lens	Vari Focal Length	2.8 - 9.5 mm {1/8 inches - 13/32 inches}
	Angular Field of View	[16 : 9 mode] Horizontal : 32° (TELE) - 110° (WIDE) Vertical : 18° (TELE) - 60° (WIDE) [4 : 3 mode] Horizontal : 27° (TELE) - 91° (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: +120°(right) to –240°(left), Vertical: ±85°, Image tilt adjustment range: -100°(Left) to +100°(Right)

Browser GUI	Cropping	H.264(1) / H.264(2) / H.264(3) / H.264(4) / 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) Up to 4,000 (SDXC/SDHC/SD memory when the recording format is set to JPEG.) error logs
	Supported OS [3]	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)

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 bitrate / 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
		Refresh interval	0.2 / 0.25 / 0.33 / 0.5 / 1 / 2 / 3 / 4 / 5s
		Transmission Type	Unicast / Multicast
	JPEG	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 / 2,048 / 4,096 / 8,192 kbps / Unlimited
	Supported Protocol	IPv6: TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, RTP, MLD, ICMP, ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP,FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP
	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) * Use the SD memory card manufactured by Panasonic (SD speed class 4 or higher), and in the case of SD Speed Class 10, that complies with UHS-1(Ultra High Speed-1).	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*, 64GB** 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), AndroidTM mobile terminals

Alarm	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, NTSC / PAL composite, ø3.5mm mini jack MONITOR OUT conversion plug included
	Microphone/Line Input	MIC IN and Line IN are selectable. ø3.5 mm monaural mini jack (monaural 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 (monaural 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)

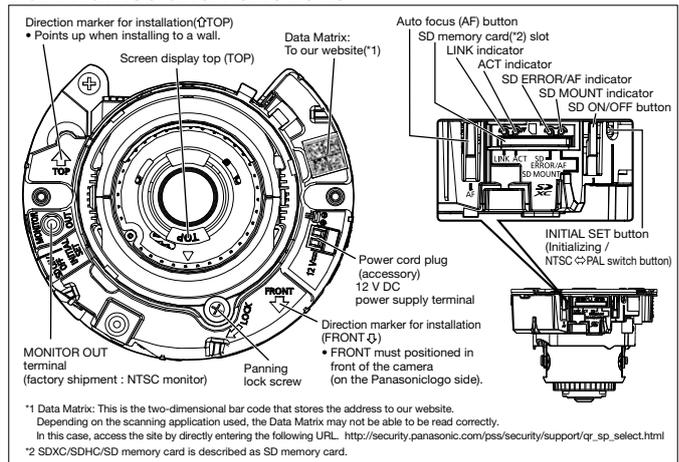| General	Safety	UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1
	EMS	FCC (Part15 ClassA), ICES003 ClassA, EN55022 ClassB, EN55024
	Power Source and Power Consumption	DC power supply: DC12 V / 450 mA / Approx. 5.4 W PoE Device: DC48 V / 110 mA / Approx. 5.3 W (Class 2 device) * ONLY CONNECT DC12 V CLASS 2 POWER SUPPLY.
	Ambient Operating Temperature	-10°C to +50°C (14 °F to 122 °F)
	Ambient Operating Humidity	10 to 90 % (no condensation)
	Dimensions	ø129.5 mm x 101 mm (H) {ø5-3/32 inches x 3-31/32 inches (H)} Dome radius 40 mm {1-9/16 inches}
	Mass (approx.)	Approx. 0.49 kg {1.08 lbs}
	Finish	Main body : ABS resin, sail white Dome section: Clear acrylic 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" on the provided CD-ROM for further information about system requirements for a PC and precautions when using 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

Direction marker for installation(⇧TOP)
• Points up when installing to a wall.
Screen display top (TOP)
Data Matrix: To our website(*1)
Auto focus (AF) button
SD memory card(*2) slot
LINK indicator
ACT indicator
SD ERROR/AF indicator
SD MOUNT indicator
SD ON/OFF button

INITIAL SET button (Initializing / NTSC ⇔ PAL switch button)

Power cord plug (accessory) 12 V DC power supply terminal

Direction marker for installation (FRONT ⇩)
• FRONT must positioned in front of the camera (on the Panasoniclogo side).

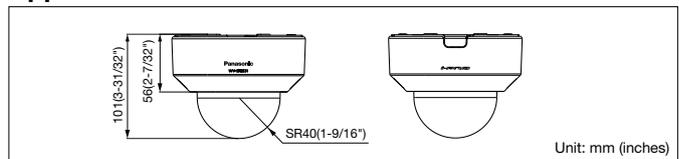MONITOR OUT terminal (factory shipment : NTSC monitor)
Panning lock screw

*1 Data Matrix: This is the two-dimensional bar code that stores the address to our website.
Depending on the scanning application used, the Data Matrix may not be able to read correctly.
In this case, access the site by directly entering the following URL. http://security.panasonic.com/pss/security/support/qr_sp_select.html
*2 SDXC/SDHC/SD memory card is described as SD memory card.

Appearance

101(3-31/32")
56(2-7/32")
SR40(1-9/16")

Unit: mm (inches)

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Important
– Safety Precaution: Carefully read the Important Information, Installation Guide and operating instructions before using this product.
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• Masses and dimensions are approximate. • Specifications are subject to change without notice.

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