



HD / 1,280 x 960 H.264 Vandal Resistant Network Camera featuring *Super Dynamic*

Key Features

- 720p HD images up to 30 fps
- 1.3 Megapixel high sensitivity MOS Sensor
- Multiple H.264 (High profile) streams and JPEG streams ensure simultaneous real time monitoring and high resolution recording by “UniPhier®”, Panasonic’s proprietary System LSI platform.
- Full frame (Up to 30 fps) transmission at 1,280 x 960 image size
- **Super Dynamic** and ABS (Adaptive Black Stretch) technologies deliver 128x wider dynamic range compared to conventional cameras.
- **Face Super Dynamic** technology ensures clear face image.
- High sensitivity with Day & Night (Electrical) function:
0.8 lx (Color), 0.6 lx (B/W) at F2.2
- VIQS (Variable Image Quality on Specified area) technology allows the designated area 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.
- Digital Noise Reduction: 3D-DNR ensures noise reduction in various conditions.
- Progressive scan ensures clear images with less motion blur and no tearing even when the subject is moving.
- Electronic sensitivity enhancement: Auto (Up to 16x) / OFF
- Selectable light control modes: Indoor scene (50 Hz) / Indoor scene (60 Hz) / ELC (maximum exposure time)
Indoor scene (50 Hz/60Hz): Flicker caused by fluorescent lightning will be automatically compensated.
ELC (maximum exposure time): The lightning control will be automatically performed by adjusting shutter speed in the range of ELC.
- 2x extra zoom at VGA 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 2 private areas, such as house windows and entrances/exits.
- Camera title display: Up to 20 alphanumeric characters on the browser
- Alarm sources including VMD and Panasonic alarm command can trigger actions such as FTP image transfer, E-mail notification, Indication on browser, and Panasonic alarm protocol output.

- 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.
- SDHC/SD Memory card slot for manual recording (H.264 / JPEG), alarm recording (H.264 / JPEG) and backup upon network failure (JPEG)
- 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 / 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
- Low profile design for discrete installation
- “Railway applications – Electronics equipment used on rolling stock” compatible with EN50155
- Wide coverage (Horizontal: 104 °, Vertical: 85 °)
- IP66 rated water and dust resistant. Compatible with IEC60529 measurement standard.
- Vandal resistant mechanism for high reliability

Standard Accessories

• Installation Guide	1 pc.	• Code Label*2	1 pc.
• Important Safety Instructions.....	1 pc.	• Lens adjuster.....	1 pc.
• CD-ROM*1	1 pc.		

*1 The CD-ROM contains the operating instructions and different kinds of tool software programs.
*2 This label may be required for network management. The network administrator shall retain the code label.

The followings are for installation.

• Tamperproof Screw Bit	1 pc.	• Waterproof Tape	1 pc.
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Specifications

Camera	Image Sensor	1/3 type MOS Sensor	
	Effective Pixels	Approx. 1.3 megapixel	
	Scanning Mode	Progressive	
	Scanning Area	4.8 mm (H) x 3.6 mm (V) (3/16" (H) x 5/32" (V))	
	Minimum Illumination	Color: 0.8 lx (F2.2, Auto slow shutter: Off (1/30s), Gain: On (High)) 0.05 lx (F2.2, Auto slow 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	Indoor scene (50 Hz / 60 Hz) / ELC	
	Shutter Speed	With Super Dynamic ON	ELC (1/30 s)
		With Super Dynamic OFF	ELC (1/30 s), ELC (3/100 s), ELC (3/120 s), ELC (2/100 s), ELC (2/120 s), ELC (1/100 s), ELC (1/120 s), ELC (1/250 s), ELC (1/500 s), ELC (1/1,000 s), ELC (1/2,000 s), ELC (1/4,000 s), ELC (1/10,000 s)
	Super Dynamic	ON / OFF	
	Face Super Dynamic	ON / OFF (Only at Super Dynamic: ON)	
	Adaptive Black Stretch	ON / OFF	
	AGC	ON (HIGH) / ON (MID) / ON (LOW) / OFF	
	Electronic Sensitivity UP	OFF (1/30 s), Max. 2/30 s, Max. 4/30 s, Max. 6/30 s, Max. 10/30 s, Max. 16/30 s	
	Day & Night(electrical)	OFF / AUTO	
	Dynamic Range	52 dB typ. (Super Dynamic: ON, Light Control: ELC)	
	Digital Noise Reduction	HIGH / LOW	
	Video Motion Detection	ON / OFF, 4 areas available	
	Privacy Zone	ON / OFF (up to 2 zones available)	
	VIQS	ON / OFF	
	Camera Title (OSD)	Up to 20 characters (alphanumeric characters, marks), On/Off	
	Focus Adjustment	MANUAL	
	Lens	Focal Length	1.95 mm
Zoom Ratio		1x / Extra zoom: 2x (at VGA resolution)	
Angular Field of View		Horizontal: 104°, Vertical: 85°	
Maximum Aperture Ratio		1 : 2.2	
Focusing Range		0.5 m - ∞	
Adjusting Angle	Wall Installation Horizontal: ±30° Vertical: ±30°		
Browser GUI	Camera Control	Brightness	
	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)	
	One Shot Capture	A still picture will be displayed on a newly opened window.	
	SD Memory	Still or motion Images recorded in the SDHC/SD memory card can be downloaded.	
	GUI/Setup Menu Language	English, Italian, French, German, Spanish, Chinese, Russian, Japanese	
	System Log	Up to 100 (Internal), Up to 4,000 (SDHC/SD memory when the recording format is set to JPEG.) error logs	
	Supported OS ^{*2} ^{*3}	Microsoft® Windows® 8, Microsoft® Windows® 7, Microsoft® Windows Vista®	
	Supported Browser	Windows® Internet Explorer® 11.0 (32 bit), Windows® Internet Explorer® 10.0 (32 bit), Windows® Internet Explorer® 9.0 (32 bit), Windows® Internet Explorer® 8.0 (32 bit), Windows® Internet Explorer® 7.0 (32 bit),	
	Network	Network IF	10Base-T / 100Base-TX, RJ-45 connector (female)
		Image Resolution	Aspect ratio: [4 : 3]
Aspect ratio: [16 : 9]			H.264: 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps JPEG: 1,280 x 720 / 640 x 360 / 320 x 180, up to 30 fps
H.264 ^{*4}		Transmission Mode	Constant bitrate / Framerate priority / Best effort / Advanced VBR
		Frame Rate	1 / 3 / 5 / 7.5 / 10 / 15 / 20 / 30 fps 1 / 3 / 5 / 7.5 / 10 / 12 / 15 / 20 / 30 fps
		Bit Rate/Client	64 / 128 / 256 / 384 / 512 / 768 / 1,024 / 1,536 / 2,048 / 3,072 4,096 / 8,192* kbps * H.264 mode only
		Image Quality	LOW / NORMAL / FINE
JPEG		Image Quality	UNICAST / MULTICAST
		Transmission Type	
JPEG		Image Quality	10 steps
		Refresh Interval	0.1 fps ~ 30 fps
Total Bit Rate		Transmission Type	PULL / PUSH
			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, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, MLD, ICMP, ARP IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, 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 SDHC/SD memory card is available.)	
No. of Simultaneous Users	Up to 14 users (Depends on network conditions)		
SDHC/SD Memory Card (Option)	Manufactured by Panasonic SDHC memory card: 4 GB, 8 GB, 16 GB, 32 GB SD memory card: 256 MB, 512 MB, 1 GB, 2 GB except miniSD card and microSD card		
Cellular Phone Compatibility	JPEG image		
Mobile Terminal Compatibility	iPad, iPhone, iPod touch (iOS 4.2.1 or later), Android™ mobile terminals		

Alarm	Alarm Source	VMD, Command alarm
	Alarm Actions	SDHC/SD memory recording, E-mail notification, Indication on browser, FTP image transfer, Panasonic protocol output
	Alarm Log	With SDHC/SD memory card: 5,000 logs, without SDHC/SD memory card: 1,000 logs
	Schedule	VMD
General	Safety/EMC Standard	<Safety> UL (UL60950-1), C-UL (CAN/CSA C22.2 No.60950-1), CE, IEC60950-1 <EMC> FCC Part15 Class A, ICES-003 Class A, EN55022 Class B, EN55024
	Power Source and Power Consumption	PoE (IEEE802.3af compliant) / PoE 48 V: 56 mA (Class 1 device)
	Ambient Operating Temperature	-30 °C ~ +50 °C (-22 °F ~ 122 °F)
	Ambient Operating Humidity	20 % ~ 90 % (no condensation)
	Impact Protection	Compliant with 20 J IEC60068-2-75
	Water and Dust Resistance	Camera: IP66 (IEC60529) ^{*5}
	Railway Application	EN50155, EN50121
	Dimensions	121 (W) mm x 87 (H) mm x 49 (L) mm (4-49/64 inches (W) x 3-7/16 inches (H) x 1-15/16 inches (L))
	Mass (approx.)	400 g (0.88 lbs)
	Finish	Main body: Aluminum die cast, light gray, Dome section: Clear polycarbonate resin

*1 Converted value

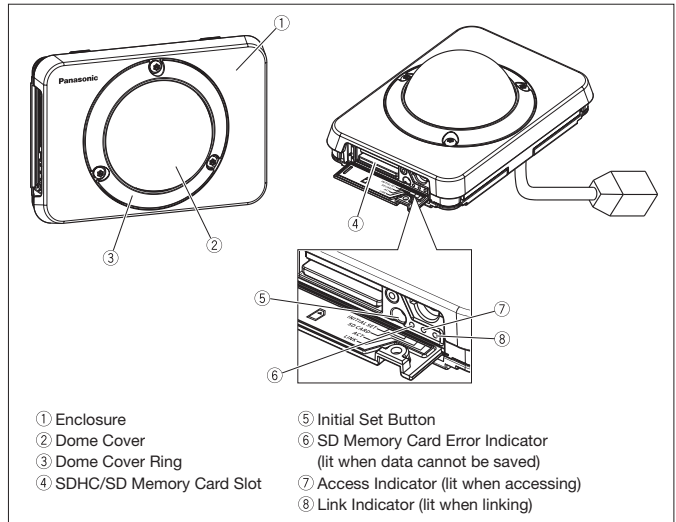
*2 Refer to "Notes on Windows Vista® / Windows® 7 / Windows® 8" on the provided CD-ROM for further information about system requirements for a PC and precautions when using Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

*3 When using IPv6 for communication, use Microsoft® Windows® 8 or Microsoft® Windows® 7 or Microsoft® Windows Vista®.

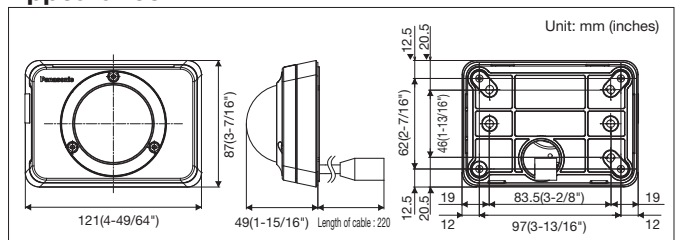
*4 Transmission for 2 streams can be individually set.

*5 Only when installation work specified in this book is properly performed and appropriate waterproof treatment is performed.

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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