

Preliminary

H.265 AI Network Camera

WV-X2233L has onboard AI functionality. AI-based high precision analysis helps surveillance operations and crime prevention operations more efficiently, whereas these operations previously required dedicated manpower.

There are 3 AI functions available through the camera: detecting suspicious changes in captured scenes, optimizing the image settings of the camera (based on captured scene analysis) for better image usability, and optimizing video compression through captured scenes to save bandwidth at 50%* lower than existing cameras while maintaining image quality.

*Compared to Smart Coding OFF with H.265

Optimization of image quality and data compression using AI

- AI detects, identifies and determines movement.
- AI determines human faces and captures them in the most visible state.
- AI determines moving objects, identifies where there is no movement, and performs efficient data compression.

3rd party relationship

- To enable 3rd party companies to develop their applications using SDK.
- Users can freely combine applications and introduce analysis software that is the best match for their requirements.

Easy installation

- AI analysis automatically applies optimal settings, allowing you to capture high-quality images effortlessly.
- Connect the network cable to the camera body simply by opening a part of the packaging, saving you time and working space.

Key Features

- Full HD 1080p 30fps
- AI Intelligent Auto
- Color night vision (0.00075 to 0.012 lx)
- H.265 Smart Coding

Industry examples

- Airport (Passport control / Security checkpoint / Ticket counter)
- Retail / Bank / Education / Hospital / Building



Specifications

Camera	Image Sensor	1/2.8 type CMOS image sensor (TBD)
	Minimum Illumination	Color : 0.012 lx, BW : 0.01 lx (50IRE, F1.3, Maximum shutter : Off (1/30s), AGC : 11) BW : 0 lx (50IRE, F1.3, Maximum shutter : Off (1/30 s), AGC : 11, when the IR LED is lit) Color : 0.00075 lx, BW : 0.00065 lx (50IRE, F1.3, Maximum shutter : max. 16/30s, AGC : 11) *1 (TBD)
	White Balance	ATW1/ATW2/AWC
	Shutter Speed	1/30 Fix to 1/10000 Fix
	AI Intelligent Auto	On / Off
	Super Dynamic	On / Off, the level can be set in the range of 0 to 31.
	Dynamic Range	Max. 132 dB (Super Dynamic : On, Level : 30 or more, 15fps *2)
	Adaptive Black Stretch	The level can be set in the range of 0 to 255.
	Back light compensation / High light compensation	BLC (Back light compensation) / HLC (High light compensation) / Off The level can be set in the range of 0 to 31. (only when Super dynamic / AI Intelligent Auto : Off)
	Fog compensation	On / Off, The level can be set in the range of 0 to 8 (only when AI Intelligent auto / auto contrast adjust : Off)
	Maximum gain	The level can be set in the range of 0 to 11.
	Color/BW (ICR)	Off / On (IR Light Off) / On (IR Light On) / Auto1 (IR Light Off) / Auto2 (IR Light On) / Auto3 (SCC)
	IR LED Light	High / Middle / Low / Off, Maximum irradiation distance : 40 m (Approx. 131 ft)
	Digital Noise Reduction	The level can be set in the range of 0 to 255.
	Video Motion Detection (VMD)	On / Off, 4 areas available
	Scene Change Detection (SCD)	On / Off, 1 area available
	Privacy Zone	On / Off (up to 8 zones available)
	Image rotation ³ *4	0 ° (Off) / 90 ° / 180 ° (Upside-down) / 270 °
	Camera Title (OSD)	On / Off Up to 20 characters (alphanumeric characters, marks)
	Lens	Optical zoom
Extra optical zoom		3.1x - 9.3 (when resolution is 640x360)
Digital (electronic) zoom		Choose from 3 levels of x1, x2, x4
Focal length		2.9 mm - 9 mm {1/8 inches - 11/32 inches}
Maximum Aperture Ratio		1 : 1.3 (WIDE) - 1 : 2.5 (TELE)
Focus range		0.3 m (11-13/16 inches) - ∞
Angular Field of View		[16 : 9 mode] * [4:3 mode] is not supported. Horizontal : 36° (TELE) - 114° (WIDE), Vertical : 20° (TELE) - 60° (WIDE) (TBD)
Adjusting Angle		Horizontal (PAN) angle : ±180°, Vertical (TILT) angle : -30 to +85°, Azimuth (YAW) angle : ±100°
Browser GUI	Camera Control	Brightness, AUX On / Off
	Audio	Mic (Line) Input : On / Off Volume adjustment : Low / Middle / High Audio Output : On / Off Volume adjustment : Low / Middle / High
	GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese
Network	Network IF	10Base-T / 100Base-TX, RJ45 connector
	Resolution ⁵	[16 : 9 mode] * [4:3 mode] is not supported. 1920x1080, 1280x720, 640x360, 320x180
	H.265 / H.264 / JPEG (MJPEG) Transmission Mode	Constant bit rate / VBR / Frame rate / Best effort
	H.265 / H.264 ⁶ Transmission Type	Unicast / Multicast
	JPEG Image Quality	10 steps
	Smart Coding	Smart Facial Coding : On (Smart Facial Coding) / On (Auto VIQS) / Off *Smart Facial Coding is only available with Stream(1). GOP (Group of pictures) control : On (Frame rate control) / On (Advanced) / On (Mid) / On (Low) / Off *On (Frame rate control) and On (Advanced) are only available with H.265.

Network	Audio Compression	G.726 (ADPCM) : 16 kbps / 32 kbps G.711 : 64 kbps AAC-LC ⁷ : 64 kbps / 96 kbps / 128 kbps
	Audio transmission mode	Off / (Mic / Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex)
	Supported Protocol	IPv6 : TCP/IP, UDP/IP, HTTP, HTTPS, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, RTP, MLD, IGMP, ARP, IEE 802.1X, DiffServ IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP, IEE 802.1X, DiffServ
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)
Alarm	SDXC/SDHC/SD Memory Card	H.265 / 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 SDXC/SDHC/SD Memory Card : Panasonic 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB**, 128 GB**, 256 GB** model *SDHC card, **SDXC card (except miniSD card and microSD card)
	Mobile Terminal Compatibility	iPad, iPhone, Android™ terminals
	Alarm Source	3 terminals input, VMD alarm, Command alarm
Input/Output	Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification, Indication on browser, FTP image transfer, Panasonic alarm protocol output
	Monitor Output (for adjustment)	VBS : 1.0 V [p-p] / 75 Ω, composite, ø3.5 mm mini jack An NTSC or PAL signal can be outputted from camera
	Audio input	ø3.5 mm stereo mini jack For microphone input : Recommended applicable microphone : Plug-in power type (Sensitivity of microphone : -48 dB±3 dB (0 dB=1 V/Pa, 1 kHz)) Input impedance : Approx. 2 kΩ (unbalanced) Supply voltage : 2.5 V ±0.5 V For line input : Input level : Approx. -10 dBV
	Audio Output ⁸	ø3.5 mm stereo mini jack (Audio output is monaural) Output impedance : Approx. 600 Ω (unbalanced) Output level : -20 dBV
General	External I/O Terminals	ALARM IN 1 (Alarm input 1/ Black & white input/ Auto time adjustment input) (x1) ALARM IN 2 (Alarm input 2/ ALARM OUT) (x1) , ALARM IN 3 (Alarm input 3/ AUX OUT) (x1)
	Safety	UL (UL60950-1), c-UL (CSA C22.2 No.60950-1), CE, IEC60950-1
EMC	FCC (Part15 ClassA), ICES003 ClassA, EN55032 ClassB, EN55024	
	Power Source and Power Consumption	DC power supply : DC 12 V 890 mA/Approx. 10.7 W (TBD) PoE (IEEE802.3af compliant) Device : DC48 V 230 mA/ Approx. 11.0 W (Class 0 device) (TBD)
	Ambient Operating Temperature	-10 °C to +50 °C (+14 °F to +122 °F)
	Ambient Operating Humidity	10 to 90 % (no condensation)
	Shock Resistance	IK10 (IEC 62262)
	Dimensions	ø129.5 mm x 102.5 mm (H) (ø5-3/32 inches x 4-1/32 inches (H)) Dome radius 41.5 mm (1-5/8 inches)
	Mass	Approx. 830 g (1.83 lbs)
	Finish	Main body : Aluminum die cast, i-PRO white Dome cover : Polycarbonate resin , Clear

*1 Converted value

*2 The frame rate is limited to 15 fps for level 30 or higher. The dynamic range is 108 dB typ / 30 fps for level 29 or lower.

*3 90° and 270° are invalid only in the 320x180 resolution.

*4 Following the setting angle of the rotated image, the analog output of the MONITOR OUT terminal rotates.

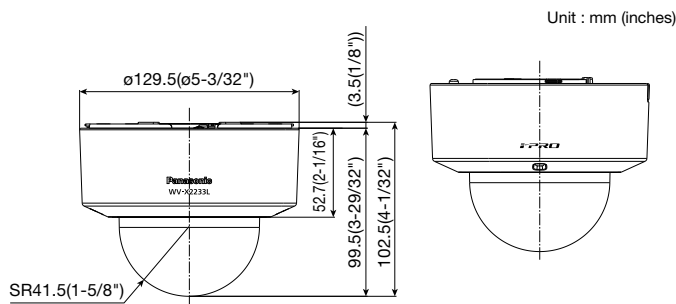
*5 H.265/H.264 can be selected for each stream.

*6 Transmission for 4 streams can be individually set.

*7 When recording audio on an SD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).

*8 The audio output can be switched to the monitor output. Refer to the Operating Instructions on the our support web site for descriptions of how to switch the output.

Appearance



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Important

- Safety Precaution : Carefully read the Basic 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.

Optional Accessories

Mount Bracket / Dome Cover


Ceiling Mount Bracket WV-Q105A 	Ceiling Mount Bracket (Embedded) WV-QEM100-W (i-PRO white) 	Dome Cover (Smoke Type) WV-CR1S 
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- Masses and dimensions are approximate. • Specifications are subject to change without notice.

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