

2MP (1080p) Vandal Resistant Indoor Dome Network Camera

Panasonic WV-S2231L captures the highest quality images automatically even in very challenging and fast-changing surveillance environments. Intelligent Auto (iA) allows the camera to automatically adjust the key settings in real-time depending on the scenery and movement, reducing distortion such as motion blur and moving objects. New industry-leading 144dB dynamic range delivers balanced scene exposure in dynamic and extreme-backlit lighting environments. In addition, color night vision provides outstanding low-light performance with accurate color rendition and saturation from i-Pro's 1/3" sensor, rivaling the performance of costlier 1/2" sensor cameras in the market. By adopting H.265 Smart Coding technology, intelligently reduces bandwidth efficiency of up to 95%* more than H.264 for longer recording and less storage. Cameras out-of-the-box, use an encryption module standardized by FIPS Publication 140-2 for secure video streaming.

*Value in Advanced mode with Smart Facial Coding. It depends on the scene.

Extreme image quality allows evidence to be captured even under challenging conditions

- Auto Shutter speed control for fast moving object
- Sharp and clear images of a walking person day & night
- Outstanding low light performance in true color with low noise for night time applications
- Super Dynamic 144dB for backlit situations involving headlights and shadows on night streets

Extreme bandwidth compression with new Panasonic H.265 Smart Coding

- Longer recording and less storage compared to any H.264 based compression techniques
- New self-learning ROI* encoding (Auto VIQS) detects movement within the image and compresses the areas with little motion in order to reduce transmitted data while maintaining the quality of the image.
- New "Smart Facial Coding" adds more bandwidth reduction for ID camera applications mainly capturing faces

*Region of Interest

Extreme Data Security

- Full encryption SD card edge recording to keep your data safe
- FIPS140-2 CAVP compliant *Using encryption module standardized by FIPS publication 140-2
- Full end-to-end system encryption with supported VMS and devices to protect from IP snooping/spoofing and detect data alteration

Key Features

- 2MP (1080p) up to 60fps
- iA (intelligent Auto)
- Extreme Super Dynamic 144dB
- Color night vision (0.0008 to 0.012 lx)
- H.265 Smart Coding
- i-VMD License Bundled
- ONVIF® Profile G / S / T

*ONVIF is a trademark of ONVIF, Inc.

Industry examples

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



Specifications

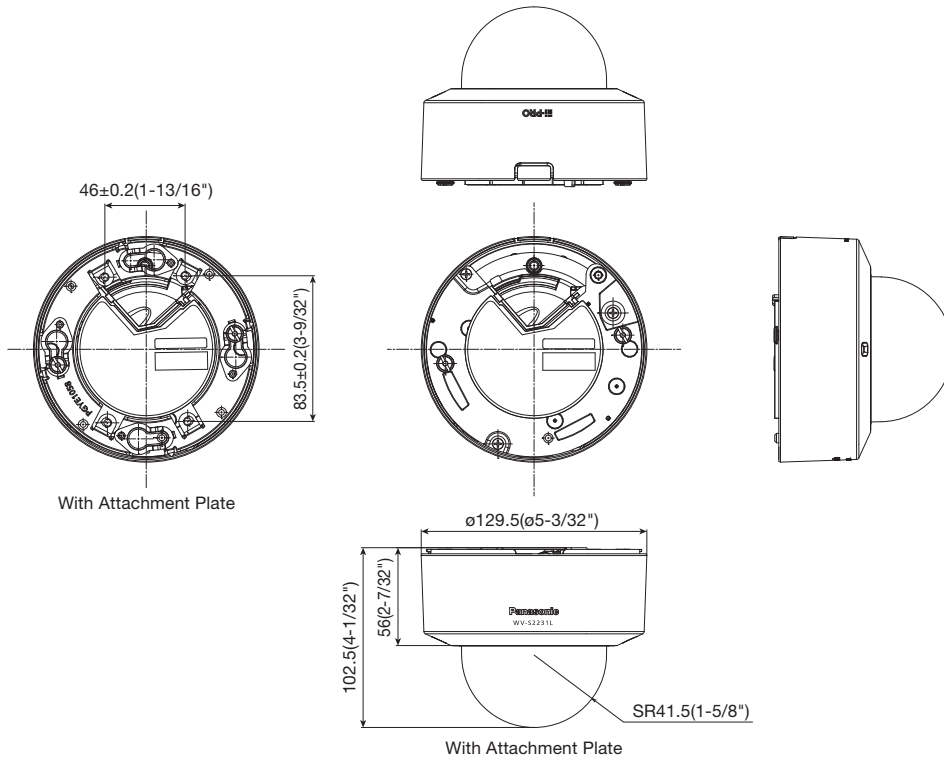
Camera	Image Sensor	Approx. 1/3 type MOS image sensor
	Minimum Illumination	Color : 0.012 lx, BW : 0.006 lx (F1.6, Maximum shutter : Off (1/30s), AGC : 11) BW : 0 lx (F1.6, Maximum shutter : Off (1/30 s), AGC : 11, when the IR LED is lit) Color : 0.0008 lx, BW : 0.0004 lx (F1.6, Maximum shutter : max. 16/30s, AGC : 11) *1
	White Balance	AWC (2,000 - 10,000 K), ATW1 (2,700 - 6,000 K), ATW2 (2,000 - 6,000 K)
	Shutter Speed	1/30 Fix to 1/10000 Fix *1/30 Fix to 2/120 Fix is available during 30 fps mode only. *1/60 Fix is available during 60 fps mode only.
	Intelligent Auto	On / Off
	Super Dynamic*2	On / Off, The level can be set in the range of 0 to 31.
	Dynamic Range	Max.144 dB (Super Dynamic : On)
	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 (only when Super dynamic / Intelligent Auto : Off)
	Fog compensation	On / Off (only when Intelligent auto / auto contrast adjust : Off)
	Maximum gain (AGC)	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 : 30 m (Approx. 98 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
	Intelligent VMD (i-VMD) *3	Type 4 *Bundled License
	Stabilizer*3	On / Off (available only in the 30 fps mode)
	Privacy Zone	On / Off, Up to 8 zones available
	Image rotation*4	0 ° / 90 ° / 180 ° / 270 °
	Camera Title (OSD)	On / Off, Up to 20 characters (alphanumeric characters, marks)
Focus Adjustment	Auto back focus / Manual	
Lens	Focal length	2.8 - 10 mm (1/8 inches - 13/32 inches)
	Zoom ratio	3.6 x (Motorized zoom / Auto Focus)
	Angular Field of View	[16 : 9 mode] Horizontal : 30° (TELE) - 109° (WIDE) Vertical : 17° (TELE) - 58° (WIDE) [4 : 3 mode] Horizontal : 25° (TELE) - 90° (WIDE) Vertical : 19° (TELE) - 65° (WIDE)
	Maximum Aperture Ratio	1 : 1.6 (WIDE) - 1 : 3.4 (TELE)
	Focusing Range	0.3 m (11-13/16 inches) - ∞
Adjusting Angle	Horizontal : -240 to +120°, Vertical : -30 to +85°, Yaw : ±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
Network	GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese
	Network IF	10Base-T / 100Base-TX, RJ45 connector
Resolution	H.265 / H.264	*2 mega pixel [16 : 9] (30/60 fps) 1,920 x 1,080 / 1,280 x 720 / 640 x 360 / 320 x 180
	JPEG (MJPEG)	*3 mega pixel [4 : 3] (30 fps) 2,048 x 1,536*5 / 1,280 x 960 / 800 x 600 / 400 x 300 / 320 x 240
	H.265 / H.264 *6	Constant bit rate / VBR / Frame rate / Best effort
	JPEG / Smart Coding	Unicast / Multicast 10 steps
	JPEG / Smart Coding	Smart Facial Coding *3 : On (Smart Facial Coding) / On (Auto VIQS) / Off *Smart Facial Coding is only available with Stream(1). GOP (Group of pictures) : On (Advanced) / On (Mid) / On (Low) / Off *On(Advanced) is 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, SSL/TLS, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6, MLD, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP*8, MQTT*9, LLDP*9 IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTSP, RTP, RTP/RTCP, FTP, SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP*8, MQTT*9, LLDP*9	
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)	
	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	
	ONVIF*5 Profile	G / S / T	
	Alarm	Alarm Source	3 terminals input, VMD alarm*8, 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 alarm protocol output
	Input/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 Input impedance: Approx. 2 kΩ (unbalanced) (Applicable microphone : Plug-in power type) Supply voltage : 2.5 V ±0.5 V	
Audio Output		ø3.5 mm stereo mini jack (monaural output) Output impedance : Approx. 600 Ω (unbalanced)	
General	External I/O Terminals	ALARM IN 1 (Black & white input, Auto time adjustment input) (x1), ALARM IN 2 (ALARM OUT) (x1), ALARM IN 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 : DC12 V 560 mA, Approx. 6.8 W PoE (IEEE802.3af compliant) Device : DC48 V 150 mA, Approx. 7.2 W (Class 0 device)	
	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.)	Approx. 750 g (1.65 lbs)	
	Finish	Main body : Aluminum die cast, sail white Dome section : Polycarbonate resin, Clear	

- *1 Converted value
- *2 Super Dynamic function is automatically set off on 60 fps mode.
- *3 Stabilizer, Smart Facial Coding, i-VMD can not be used at the same time.
- *4 When "3 mega pixel [4 : 3] (30fps mode)" is selected for "Image capture mode", "90 °" and "270 °" cannot be selected.
- *5 Used by super resolution techniques
- *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 Including alarms from Plug-in Software
- *9 It may be necessary to upgrade the firmware to use these protocols.

Appearance

Unit : mm (inches)



Bundled License

Plug-in Software for i-VMD






i-VMD is possible to detect objects in the specified area by advanced video analysis technology.
 i-VMD : Intruder Detection, Loitering Detection, Direction Detection, Scene Change Detection, Object Detection, Cross Line Detection



Notification sent to the monitoring screen

Optional Accessories

Mount Bracket / Dome Cover / Other

<p>Ceiling Mount Bracket WV-Q105A</p> 	<p>Ceiling Mount Bracket (Embedded) WV-Q174B</p> 	<p>Ceiling Mount Bracket WV-QCL100-W (i-PRO white)</p> 	<p>Mount Bracket WV-QSR501-W (i-PRO white)</p>  <p>(This bracket requires WV-QCL501-W, WV-QWL501-W or WV-QAT500-W.)</p>	<p>Ceiling Mount Bracket WV-QCL501-W (i-PRO white)</p>  <p>(This bracket requires WV-QSR501-W.)</p>	<p>Wall Mount Bracket WV-QWL501-W (i-PRO white)</p>  <p>(This bracket requires WV-QSR501-W.)</p>
<p>Wall Mount Bracket WV-QWL500-W (i-PRO white)</p> 	<p>Adapter Box WV-QJB500-W (i-PRO white)</p>  <p>(This bracket requires WV-QWL500-W.)</p>	<p>Pole Mount Bracket WV-QPL500-W (i-PRO white)</p>  <p>(This bracket requires WV-QWL501-W.)</p>	<p>Corner Mount Bracket WV-QCN500-W (i-PRO white)</p>  <p>(This bracket requires WV-QWL501-W.)</p>	<p>Attachment pipe (For 3rd party bracket) WV-QAT500-W (i-PRO white)</p>  <p>(This bracket requires WV-QSR501-W.)</p>	<p>Dome Cover (Smoke Type) WV-CR1S</p> 

• Brackets are available in four colors, Fine silver, Light gray, Gray and i-PRO white. It is possible to use them in different color combinations.

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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.

• Masses and dimensions are approximate. • Specifications are subject to change without notice.

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