Panasonic
BUSINESS

WV-S2136L

Full HD Indoor Dome Network Camera with AI engine

WV-S2136L 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 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 ON with H.265

Optimization of image quality and data compression using AI engine

- AI detects, identifies and determines movement and object (humans, vehicles and two-wheel motorcycles / bicycles).
- i-PRO Intelligent Auto and i-PRO Color Night Vision determine human faces and captures them in the most visible state.
- i-PRO Smart Coding determines moving objects, identifies where there is no movement, and performs efficient data compression.

Easy installation and usability

- i-PRO Multi AI Server is a easily and quickly search function based on the face, person attributes, and vehicle attributes detected by AI, and is composed of AI plug-in software, Edge AI application, and Server AI software.
- i-PRO Camera with AI engine automatically applies optimal settings, allowing you to capture high-quality images effortlessly.
- i-PRO Easy Kitting connect the network cable to the camera body simply by opening a part of the packaging, saving you time and working space.

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.

Key Features

- Full HD 1080p up to 60fps
- i-PRO Intelligent Auto (i-PRO iA)
- i-PRO Super Dynamic 144dB
- i-PRO Color night vision (0.007 to 0.009 lx)
- i-PRO Smart Coding

Industry examples

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

S series

::: i-PRO

Specifications

Camera	Image Sensor	Approx. 1/2.8 type CMOS image sensor
	Minimum Illumination	Color : 0.007 lx (30IRE, F1.3, 1/30s) *1
		Color : 0.009 lx (50IRE, F1.3, 1/30s)
		BW : 0.006 lx (30IRE, F1.3, 1/30s)
		BW : 0 lx(50IRE,F1.3,1/30s with IR LED)
	White Balance	ATW1 / ATW2 / AWC
	Shutter Speed	[60 fps Mode] 1/60 Fix to 1/10000 Fix, [30fps/15fps*2 mode] 1/30 Fix to 1/10000 Fix [50 fps Mode] 1/50 Fix to 1/10000 Fix, [25fps/12.5fps*2 mode] 1/25 Fix to 1/10000 Fix
	i-PRO Intelligent Auto	On / Off
	i-PRO Super Dynamic*3	On / Off, The level can be set in the range of 0 to 31.
	Dynamic Range	Max.144 dB (Super Dynamic : On, Level 31)
	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 : 70 m {Approx. 230 ft} (30IRE) *1 50 m {Approx. 164 ft} (50IRE)
	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 areas available
	Audio Detection	On / Off
	AI Sound classification	Gunshot, Yell, Vehicle horn, Glass break
	AI Analytics	Yes
	Privacy Zone	On / Off, Up to 8 zones available
	VIQS	On / Off, Up to 8 zones available
	Image rotation*4	0 ° / 90 ° / 180 ° / 270 °
	Camera Title (OSD)	On / Off, Up to 40 characters (alphanumeric characters, marks)
	Focus Adjustment	Auto focus / Manual
Lens	Optical zoom	3.1 x (Motorized zoom / Motorized Focus)
	Extra zoom	3.1x - 9.3x (when resolution is 640 x 360)
	Focal length	2.9 - 9 mm {1/8 inches - 13/32 inches}
	Angular Field of View	Horizontal : 36° (TELE) – 115° (WIDE), Vertical : 20° (TELE) – 61° (WIDE)
	Maximum Aperture Ratio	1 : 1.3 (WIDE) – 1 : 2.5 (TELE)
	Focusing Range	0.3 m {11-13/16 inches} – ∞
DORI	Detect (25ppm / 8ppt)	Wide: 24.5 m / 80.3 ft, Tele: 118.2 m / 387.7 ft
	Observe (62.5ppm / 19ppt)	Wide: 9.8 m / 32.1 ft, Tele: 47.3 m / 155.1 ft
	Recognize (125ppm / 38ppt)	Wide: 4.9 m / 16.1 ft, Tele: 23.6 m / 77.5 ft
	Identify (250ppm / 76ppt)	Wide: 2.4 m / 8.0 ft, Tele: 11.8 m / 38.8 ft
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
	GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese
Network	Network IF	10Base-T / 100Base-TX, RJ45 connector
	Resolution H.265/ H.264/ JPEG (MJPEG)	**[16:9 mode (60 fps mode)]***3 , **[16:9 mode (30 fps mode)]**, **[16:9 mode (50 fps mode)]***3 , **[16:9 mode (25 fps mode)]** 1920x1080, 1280x720, 640x360, 320x180 **[4:3 mode(30 fps mode)]***2 , **[4:3 mode (25 fps mode)]***2 1280x960, VGA, QVGA **[4:3 mode(15 fps mode)]***2 , **[4:3 mode (12.5 fps mode)]***2 2048x1536*3, 1280x960, VGA, QVGA
	H.265/ Transmission Mode	Constant bit rate / VBR / Frame rate / Best effort
	H.264*5 Transmission Type	Unicast / Multicast
	JPEG Image Quality	10 steps
	i-PRO Smart Coding	**GOP (Group of pictures control):** Off/ Low (Variable GOP 1s-8s)/ Mid (Variable GOP 4s-16s)/ Advanced(Fixed GOP 60s w/1s key-frame)/ Frame rate control (Variable GOP 4s-16s with frame rate control) *Advanced and Frame rate control are only available with H.265. **Smart VIQS:** On(High)/On(Low)/Off, **Smart P-picture control:** On/Off

Network	Audio Compression	G.726 (ADPCM) : 16 kbps / 32 kbps G.711 : 64 kbps AAC-LC*6 : 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, SMTP, DNS, NTP, SNMPv1/v2/v3, DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X,DiffServ IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTSP, RTP, RTP/RTCP, SMTP, DHCP, DNS, DDNS, NTP, SNMPv1/v2/v3, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)

	SDXC/SDHC/SD
	Memory Card (Option)
		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
		Available SDXC/SDHC/SD Memory Card :
		  microSDXC memory card: 64 GB, 128 GB, 256 GB, 512 GB
		  microSDHC memory card: 4 GB, 8 GB, 16 GB, 32 GB
		  microSD memory card: 2 GB

	Mobile Terminal Compatibility	iPad, iPhone, Android™ terminals
Alarm	Alarm Source	3 terminals input, VMD alarm, Command alarm, Audio detection alarm
	Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification Indication on browser, Panasonic alarm protocol output
Input/ Output	Monitor Output (for adjustment)	VBS : 1.0 V [p-p] / 75 Ω, composite, Pin 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	ø3.5 mm stereo mini jack (monaural output) Output impedance : Approx. 600 Ω (unbalanced) Output level : –20 dBV
	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)
General	Safety	UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1
	EMC	FCC (Part15 ClassA), ICES-003 ClassA, EN55032 ClassB, EN55035
	Power Source and Power Consumption	DC power supply : DC12 V 720 mA, Approx. 8.6 W PoE (IEEE802.3af compliant) Device :DC48 V 180 mA, Approx. 8.7 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)
	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. 470 g {1.04 lbs.}
	Finish	Main body : ABS resin, i-PRO white / Dome section : Acrylic resin, Clear

*1 Converted value
*2 Scheduled to be upgraded in July 2021.
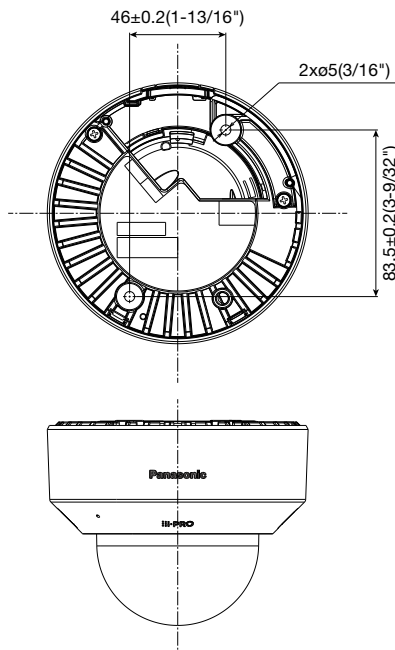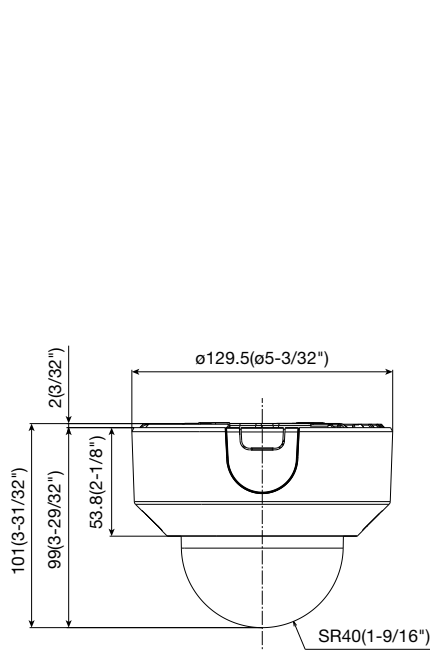*3 When 60 fps or 50 fps is selected, the Super Dynamic function is automatically set to off.
*4 When the 60 fps mode, 50 fps mode, 15 fps mode or 12.5 fps mode is used, the "90°" and "270°"settings are not available.
When the 320x180 resolution is used, the "90°" and "270°" settings are not available.
*5 Transmission for 4 streams can be individually set.
*6 When recording audio on an microSD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).

Appearance

Unit : mm (inches)

46±0.2(1-13/16")
2xø5(3/16")
83.5±0.2(3-9/32")

ø129.5(ø5-3/32")
2(3/32")
101(3-31/32")
99(3-29/32")
53.8(2-1/8")
SR40(1-9/16")

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i-PRO

AI Analytics

AI Video Motion Detection (AI-VMD)
Advanced video analysis technology detects objects (faces, people, cars, motorcycles) in a specified area. (Intruder Detection, Loitering Detection, Direction Detection, Cross Line Detection)

AI Privacy Guard
To protect privacy and portrait rights, it is possible to automatically apply a mosaic the entire face and figure of a person photographed by the camera.

AI Face Detection
Detects faces with high precision even in low-light, backlit, and mask-wearing environments.

AI People Detection
Extract the characteristics of human face / clothing and classify them into meaningful categories such as gender, age, and clothing color.

AI Vehicle Detection
Extract vehicle characteristics and classify them into meaningful categories such as type and color.

Optional Accessories

■ Mount Bracket / Dome Cover / Other

Ceiling Mount Bracket **WV-Q105A**	Ceiling Mount Bracket (Embedded) **WV-QEM100-W** (i-PRO white)	Ceiling Mount Bracket **WV-QCL100-W** (i-PRO white)	Mount Bracket **WV-QSR501-W** (i-PRO white) (This bracket requires WV-QCL501-W, WV-QWL501-W or WV-QAT500-W.)	Ceiling Mount Bracket **WV-QCL501-W** (i-PRO white) (This bracket requires WV-QSR501-W.)	Wall Mount Bracket **WV-QWL501-W** (i-PRO white) (This bracket requires WV-QSR501-W.)
Wall Mount Bracket **WV-QWL500-W** (i-PRO white)	Adapter Box **WV-QJB500-W** (i-PRO white) (This bracket requires WV-QWL500-W.)	Pole Mount Bracket **WV-QPL500-W** (i-PRO white) (This bracket requires WV-QWL501-W or WV-QWL500-W.)	Corner Mount Bracket **WV-QCN500-W** (i-PRO white) (This bracket requires WV-QWL501-W or WV-QWL500-W.)	Attachment pipe (For 3rd party bracket) **WV-QAT500-W** (i-PRO white) (This bracket requires WV-QSR501-W.)	Dome Cover (Smoke type) **WV-CF5SA**

•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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