2MP (1080p) 40x PTZ Network Camera

The WV-X6531N captures the highest quality images automatically even in very challenging and fast-changing surveillance environments. Outstanding Intelligent Zoom Stabilization to increase visibility under blur condition. Intelligent Auto (iA) monitors scene dynamics and motion to adjust key camera settings automatically in real-time reducing distortion such as motion blur on moving objects. By adopting H.265 Smart Coding technology, intelligently reduces bandwidth efficiency of up to 95%* over H.264 for longer recording and less storage.   *Value in Advanced mode. It depends on the scene.

Extreme image quality for evidence capturing under challenging conditions

- Long-distance vision with high power 40x zoom lens and Intelligent Zoom Stabilization with gyroscope
- Sharp and clear image of fast moving vehicles with Intelligent Auto and ClearSight Coating
- Outstanding low light performance in true color with low noise for night time applications
- Super Dynamic 144dB for backlit situation by headlights and shadows on the streets at night
- Environmental durability: IP66, IK10, Long life Pan/Tilt gear mechanism, Wide operating temperature up to 60 °C (140 °F) and Dehumidification device

Extreme bandwidth compression with new H.265 Smart Coding

- Longer recording, less storage compared to H.264 based compression techniques
- New self-learning ROI* encoding (Auto VIQS) dynamically detect motion areas to keep vehicles and human in good picture quality while lowering your bandwidth   *Region of Interest

Extreme Data Security

- Full encryption SD card edge recording to keep your data safe
- FIPS 140-2 Level 1 compliant
- 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) 1920x1080 up to 60fps
- Intelligent Zoom Stabilization with 40x optical zoom
- ClearSight Coating
- Durable Pan/Tilt gear mechanism
- iA (intelligent Auto)
- Extreme Super Dynamic 144dB
- Color night vision (0.001 to 0.015 lx)
- IP66, IK10 certified
- Wider operating temperature range -50 °C to +60 °C (-58 °F to +140 °F)
- i-VMD License Bundled
- Fiber Optic Media Converter Unit (Optional WV-X65F1)
- ONVIF® Profile G / S / T
  *ONVIF is a trademark of ONVIF, Inc.

Industry examples

- Traffic
- Safe Cities
- Railway
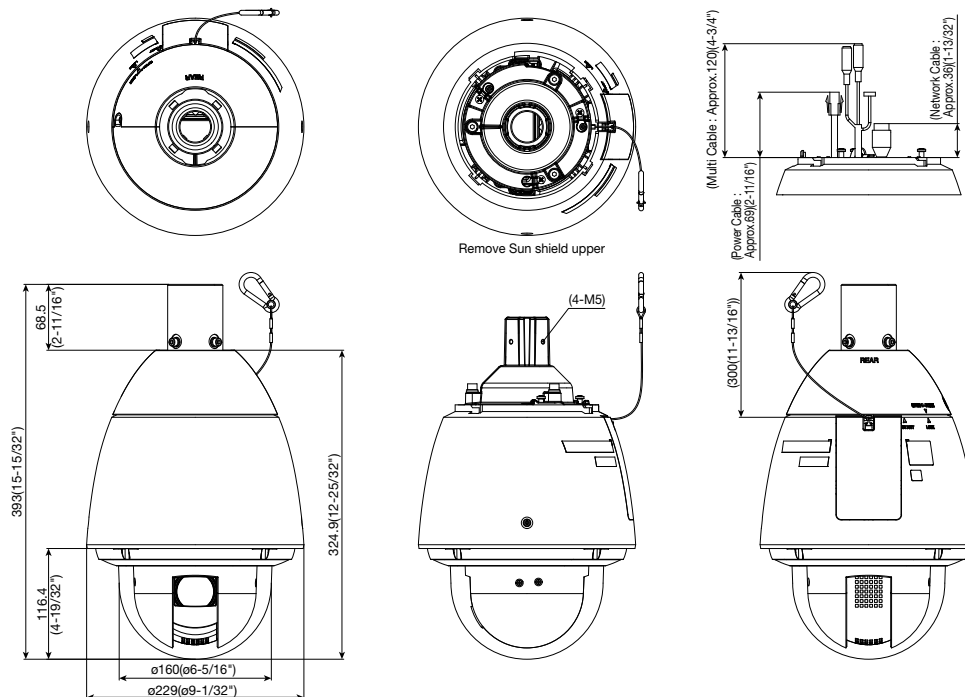- Critical infrastructure
- Airport
- Stadium

Specifications

Camera	Image Sensor	Approx. 1/2.8 type MOS image sensor
	Minimum Illumination	Color : 0.015 lx, BW : 0.006 lx
		(F1.6, Maximum shutter : Off (1/30s), AGC : 11)
		Color : 0.001 lx, BW : 0.0004 lx
		(F1.6, Maximum shutter : max. 16/30s, AGC : 11) *1
	Intelligent Auto	On / Off
	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.
	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)
	Image Settings	Gain (AGC), White balance
	Image Compensation	Adaptive black stretch, Back light compensation (BLC),
		Fog compensation, High light compensation (HLC), Digital noise reduction
	Color/BW (ICR)	Off / On / Auto1 (Normal) / Auto2 (IR Light) / Auto3 (SCC)
	Video Motion Detection (VMD)	On / Off, 4 areas available
	Intelligent VMD (i-VMD)*3	Type4 *Bundled License
	Stabilizer*3	On / Off (available only in the 30 fps mode)
	Privacy Zone	Filling / Pixelate / Off (up to 32 zones available)
	Camera Title (OSD)	On / Off, Up to 20 characters (alphanumeric characters, marks)
Lens	Zoom Ratio	40x Optical
		60x HD Extra Optical Zoom (when resolution is 1280x720)
	Digital (electronic) zoom	16x
	Focal length	4.25 mm – 170 mm {5/32 inches – 6-11/16 inches}
	Maximum Aperture Ratio	1 : 1.6 (WIDE) – 1 : 4.95 (TELE)
	Focus range	3.0 m {9 ft 10-1/8 inches} – ∞
	Angular Field of view	[16 : 9 mode] Horizontal : 2.1 ° (TELE) – 65 ° (WIDE)
		Vertical : 1.2 ° (TELE) – 39 ° (WIDE)
		[4 : 3 mode] Horizontal : 1.6 ° (TELE) – 51 ° (WIDE)
		Vertical : 1.2 ° (TELE) – 39 ° (WIDE)
Pan/tilt	Panning Range	360° Endless panning
	Panning Speed	Manual : Approx. 0.065°/s – 120°/s Preset : Up to approx. 300°/s
	Tilting Range	Operational range : –15° – 195° (level – downward – level)
		Recommended range : 0° – 180°
		Selectable tilting angle : 10 °/ 5 °/ 3 °/ 0 °*4 /–3 °*4 /–5 °*4 /–10 °*4 /–15 °*4
	Tilting Speed	Manual : Approx. 0.065°/s – 120°/s Preset : Up to approx. 300°/s
	Preset Positions	256 positions
	Auto Mode	Auto track*3/ Auto pan/ Preset sequence/ Patrol
	Self Return	10 s/ 20 s/ 30 s/ 1 min/ 2 min/ 3 min/ 5 min/ 10 min/ 20 min/ 30 min/ 60 min
Browser GUI	Camera Control	Pan/Tilt, Zoom, Focus, Auto mode, Brightness, Preset, AUX,
		Rec. on SD, Log, Viewer software
	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	•2 mega pixel [16 : 9] (30/60 fps)
	H.265/ H.264	1920×1080 / 1280×720 / 640×360 / 320×180
	JPEG (MJPEG)	•3 mega pixel [4 : 3] (30 fps)
		2048×1536* / 1280×960 / 800×600 / VGA / 400×300 / QVGA
		*Used by super resolution techniques

	H.265/ H.264*5	Transmission Mode	Constant bit rate / VBR / Frame rate / Best effort
		Transmission Type	Unicast / Multicast
	JPEG	Image Quality	10 steps

Network	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) control : On(Advanced)*/ On(Mid)/ On(Low)/ Off
		*On(Advanced) is only available with H.265.
	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, RTP, FTP, SMTP, DNS, NTP, SNMP, DHCPv6,
		MLD, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP*7, MQTT*7, LLDP*7
		IPv4: TCP/IP, UDP/IP, HTTP, HTTPS, RTSP, RTP, RTP/RTCP, FTP,
		SMTP, DHCP, DNS, DDNS, NTP, SNMP, UPnP, IGMP, ICMP,
		ARP, IEEE 802.1X, DiffServ, SRTP*7, MQTT*7, LLDP*7
	Maximum concurrent access number	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® Profile	G / S / T
Alarm	Alarm Source	3 terminals input, VMD alarm*8, Command alarm, Audio detection alarm, Auto track alarm
	Alarm Actions	SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification,
		Indication on browser, FTP image transfer, TCP alarm notification output
Input/ Output	Audio Input	ø3.5 mm stereo mini jack (monaural input)
		Input impedance: Approx. 2 kΩ (unbalanced)
		(Applicable microphone : Plug-in power type)
		Supply voltage : 4.0 V ±0.5 V
	Audio Output*9	ø3.5 mm stereo mini jack (monaural output)
		Output impedance : Approx. 600 Ω (unbalanced)
	External I/O Terminals	ALARM IN1(Alarm input 1/ Black & white input/ Auto time adjustment input),
		ALARM IN2(Alarm input 2/ ALARM OUT), ALARM IN3(Alarm input 3/ AUX OUT)(x1 for each)
General	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	AC24 V 3.4 A, Approx. 55 W
		PoE+ (IEEE802.3at compliant): DC 54V 470 mA, Approx. 25 W
		Tested POE Injector (60 W) : DC 54V 1.0 A, Approx. 50 W
	Ambient Operating Temperature	–50 °C to +60 °C {–58 °F to +140 °F}
		(AC 24 V/ Tested PoE injector (60 W))
		–30 °C to +60 °C {–22 °F to +140 °F} (PoE+ device)
		{Power On range: –30 °C to +60 °C (–22 °F to +140 °F)}
	Ambient Operating Humidity	10 to 100 % (no condensation)
	Dehumidification Device	Rosahl element
	Water and Dust Resistance	IP66 (IEC60529), Type 4X (UL50), NEMA 4X compliant
	Shock Resistance	IK10 (IEC62262)
	Dimensions	Maximum ø229 mm x 393 (H) mm {ø9-1/32 inches × 15-15/32 inches (H)}
	Mass (approx.)	Approx. 5.2 kg {11.47 lbs}
	Finish	Main body : Aluminum die cast, Natural silver
		Sunshields : ABS+PC resin coating, Natural silver
		Outer fixing screws : SUS (Corrosion-resistant treatment)
		Dome cover : Polycarbonate resin(with ClearSight coating),
		Clear

*1 Converted value
*2 Super Dynamic function is automatically set off on 60 fps mode.
*3 Stabilizer, Auto track, Smart Facial Coding, i-VMD, can not be used at the same time.
*4 If "0 °", "–3 °", "–5 °", "–10 °", or "–15 °" is selected, the area hidden by the camera housing may increase when
 the tilt angle of the camera is almost level. When "–15 °" is selected for "Tilt Angle", the upper half of images will be hidden.
*5 Transmission for 4 streams can be individually set.

*6 When recording audio on an SD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).
*7 It may be necessary to upgrade the firmware to use these protocols
*8 Including alarms from Plug-in Software
*9 The audio output can be switched to the monitor output. Refer to the Operating Instructions on the provided
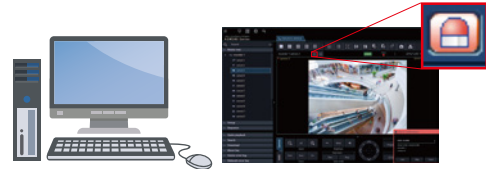 CD-ROM for descriptions of how to switch the output.

Appearance

Unit : mm (inches)

Remove Sun shield upper

(Multi Cable : Approx.120){4-3/4"}
(Network Cable : Approx.36){1-13/32"}
(Power Cable : Approx.69){2-11/16"}

68.5 (2-11/16")
393(15-15/32")
324.9(12-25/32")
116.4 (4-19/32")
ø160(ø6-5/16")
ø229(ø9-1/32")

(4-M5)

REAR

300(11-13/16")

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

■ Fiber Optic Media Converter Unit

Extension Unit
WV-X65F1
(Fine silver)

Fiber Optic Media Converter Unit supports long distance optical networks by converting copper RJ45 to fiber.

• Basic specifications

Power source	24 V AC(50 Hz/60 Hz)
Ambient Operating Temperature :	–40 ℃ to +60 ℃(–40 ℉ to 140 ℉) (Power On range: –30 to +60 {–22 ℉ to 140 ℉})
Ambient Operating Humidity :	10 % to 100 %(no condensation)
Waterproof	IP66(IEC60529)
Shock resistance	IK10(IEC62262)

*Refer to website for compatible SFP modules. https://i-pro.com/global/en/surveillance/training-support/support/technical-information <Control No. : C0504>

• Support specifications for SFP module

SFP Port Type	LC type
Ethernet Speed	100/1000 Mbps
Supply voltage, current	3.3 V typical, Max. 300 mA
SFP Cage	Standard mini-SFP cage (For 6.5 mm pitch SFP)

*Different Color Model WV-S25F1 (Light gray)

■ Mount Bracket / Other

Ceiling surface mount bracket **WV-QCL500-S** (Silver)	Ceiling Mount Bracket **WV-Q121B** (Fine silver)	Wall Mount Bracket **WV-Q122A** (Fine silver)	Pole Mount Bracket **WV-Q188** (Fine silver) (This bracket requires WV-Q122A.)	Corner Mount Bracket **WV-Q189** (Fine silver) (This bracket requires WV-Q122A.)

•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.

Important
– Safety Precautions : Carefully read the Basic Information, Installation Guide and
   Operating Instructions before using this product.
– i-PRO Co., Ltd. cannot be held responsible for the performance
   of the network and/or other manufacturers' products used on the network.

Trademarks and registered trademarks
– iPad and iPhone are trademarks of Apple Inc., registered in the U.S. and other countries.
– Android is a trademark of Google LLC.
– ONVIF is a trademark of ONVIF, Inc.
– All other trademarks identified herein are the property of their respective owners.

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

⦙⦙⦙i-PRO
The Power of Truth

i-PRO Co., Ltd.
https://i-pro.com/

(2A-190JA)