

# i-PRO

# WV-S65501-Z1 WV-S65501-Z1G

(-G:Smoke Dome type)

## S-series PTZ camera with AI Engine

# 5MP 10x Outdoor PTZ Network Camera

S-series models come standard with AI automatic tracking. It can automatically detect, zoom, and track intruders in a wide area, thereby supporting surveillance operators in many scenes. It also achieves the industry's highest level of drive durability to withstand high-speed and high-frequency camera movement by the automatic monitoring function.

### AI monitoring camera, standard with AI Auto-tracking

- AI analysis functionality is standard on the camera side to promote automated surveillance. Accurately detects people and vehicles and automatically zooms in on intruders. Support surveillance operators to ensure that no tracked object is missed.
- Additional applications can be installed (up to two applications) to expand analysis functions such as AI privacy guard, person/vehicle attribute detection, etc.

### Highly durable pan-tilt drive unit Reduced maintenance costs

- High durability gear drive achieves PAN and TILT drive durability (3.7 million movements). Low failure rate even with high frequency drive and reduced maintenance cost by minimizing the maintenance cycle.

### Easy installation

- S-series compact PTZ cameras can be installed discreetly and easily on low ceilings.
- Easy kitting packaging allows the camera to be set up without removing it from the box during kitting prior to installation.
- The 10x models of the S-Series outdoor DOME are shipped with a waterproof LAN extension cable installed. The DOME can be installed without opening the DOME at sites where conventional pigtailed are used.
- The addition of a diverse lineup of mounting brackets and optional PoE injectors enables flexible installation regardless of the location of new or existing installations.

### High security standard

- Highest level of security. In addition to digital certificates issued by a third-party organization (GlobalSign®), FIPS 140-2 Level 3 certified EdgeLock® SE050F secure element (NXP® Semiconductors) is embedded.

### Key i-PRO Spec.

- 5MP
- 10x optical zoom
- Intelligent Auto (with AI Engine)
- Super Dynamic 132dB
- Color night vision (0.007 to 0.11 lx) (G: 0.020 to 0.32 lx)
- Durable Pan/Tilt gear mechanism
- IP66, IK10 certified
- ONVIF® Profile G / M / S / T \*ONVIF is a trademark of ONVIF, Inc.
- FIPS 140-2 level 3 certified  
\*Built-in EdgeLock® SE050F (NXP® Semiconductors)
- NDAA Compliant



WV-S65501-Z1



WV-S65501-Z1G (Smoke Dome)



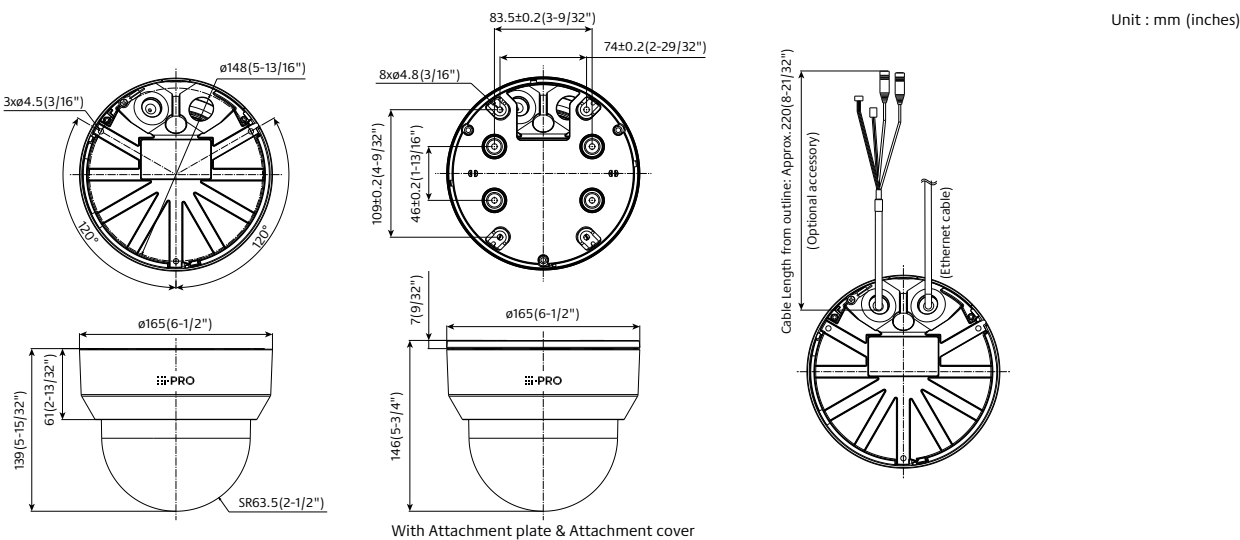
# Specifications

<b>Camera</b>	Image Sensor	Approx. 1/2.8 type CMOS image sensor	
	Minimum Illumination	Color : 0.11 lx (G: 0.32 lx) (50IRE, F1.6, 1/30s) Color : 0.007 lx (G: 0.020 lx) (50IRE, F1.6, 16/30s)*1 BW : 0.06 lx (G: 0.18 lx) (50IRE, F1.6, 1/30s) BW : 0.004 lx (G: 0.011 lx) (50IRE, F1.6, 16/30s)	
	White Balance	ATW1 / ATW2 / AWC	
	Shutter Speed	[30 fps/15 fps mode] 1/30 Fix to 1/10000 Fix [25 fps/12.5 fps mode] 1/25 Fix to 1/10000 Fix	
	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 31) *When the level is set more than 30, frame rate is limited to 15fps	
	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	
	Fog compensation	On / Off. The level can be set in the range of 0 to 8 (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 / Auto1 / Auto2 / Auto3 (SCC)	
	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 32 zones available	
	VIQS	On / Off. Up to 8 zones available	
	Image Stabilizer	On / Off	
	Camera Title (OSD)	On / Off. Up to 40 characters (alphanumeric characters, marks)	
	Focus Adjustment	Auto focus	
<b>Lens</b>	Optical zoom	10x (Motorized zoom / Motorized Focus)	
	Extra zoom	Max. 15x (10 to 15x : When resolution is 1280 x 720)	
	Focal length	4.7 - 47 mm (3/16 inches - 1-27/32 inches)	
	Angular Field of View	[16 : 9 mode] Horizontal : 6.2° (TELE) - 58° (WIDE), Vertical : 3.5° (TELE) - 34° (WIDE) [4 : 3 mode] Horizontal : 6.2° (TELE) - 58° (WIDE), Vertical : 4.6° (TELE) - 44° (WIDE)	
	Maximum Aperture Ratio	1 : 1.6 (WIDE) - 1 : 3.0 (TELE)	
<b>DORI</b>	Focus range	1.5 m (59-1/16 inches) - ∞	
	Detect (25ppm / 8ppf)	Wide: 92.4 m / 110.8 m ( 303 ft / 363.7 ft), Tele: 94.5 m / 113.4 m (310.16 ft / 372.2 ft)	
	Observe (62.5ppm / 19ppf)	Wide: 36.9 m / 44.3 m (121.2 ft / 145.5 ft), Tele: 37.8 m / 45.3 m (124.07 ft / 148.8 ft)	
	Recognize (125ppm / 38ppf)	Wide: 18.5 m / 22.2 m (60.6 ft / 72.7 ft), Tele: 18.9 m / 22.6 m ( 62.03 ft / 74.4 ft)	
	Identify (250ppm / 76ppf)	Wide: 9.2 m / 11.1 m (30.3 ft / 36.4 ft), Tele: 94.5 m / 113.4 m ( 310.2 ft / 372.2 ft)	
<b>System on Chip (SoC)</b>	Ambarella CV21		
<b>Adjusting Angle</b>	Horizontal : 360° Endless Panning, Vertical : -15° to +195°, Yaw : 0°		
<b>Pan/tilt</b>	Panning Range	360° Endless Panning	
	Panning Speed	Manual: Approx. 0.065°/s - 150°/s Preset: Up to approx. 500°/s (PoE+) Preset: Up to approx. 350°/s (DC12V, PoE)	
	Tilting Range	Operational -15° - +195°	
	Tilting Speed	Manual: Approx. 0.065°/s - 150°/s Preset: Up to approx. 500°/s (PoE+) Preset: Up to approx. 300°/s (DC12V, PoE)	
	Preset Positions	256 positions	
<b>Browser GUI</b>	Auto Mode	Auto Track / 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	
	Camera Control	Brightness, AUX On / Off	
<b>Network</b>	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	
<b>Network</b>	Browser <sup>2</sup>	Microsoft Edge, Firefox, Google Chrome	
	Network IF	10Base-T / 100Base-TX, RJ45 connector	
	Resolution	[16 : 9 mode (30 fps mode)], [16 : 9 mode (25 fps mode)] 3072x1728 <sup>3</sup> , 2560x1440, 1920x1080, 1280x720, 640x360, 320x180 [4 : 3 mode (30 fps mode)], [4 : 3 mode (25 fps mode)] 3072x2304 <sup>3</sup> , 2560x1920, 1280x960, 800x600, VGA, 400x300, 320x240	
	H.265 / H.264 / JPEG (MJPEG)	Constant bit rate / VBR / Frame rate / Best effort Unicast port (AUTO) / Unicast port (MANUAL) / Multicast JPEG Image Quality 10 steps	

<b>Network</b>	Smart Coding	<b>GOP (Group of pictures) control:</b> 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. <b>Smart Coding: Auto VIQS: On/Off</b>
	Audio Compression	G.726 (ADPCM) : 16 kbps / 32 kbps G.711 : 64 kbps AAC-LC <sup>5</sup> : 64 kbps / 96 kbps / 128 kbps
<b>Audio transmission mode</b>	Supported Protocol	Off / Mic (Line) input / Audio output / Interactive (Half duplex) / Interactive (Full duplex) IPV6 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, SMTP, DNS, NTP, SNMPv1/v2/v3, DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X, DiffServ, SFTP, MQTT, LLDP IPV4 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTP, RTSP, RTP/RTCP, SMTP, DHCP, DNS, DDNS, NTP, SNMPv1/v2/v3, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ, SFTP, MQTT, NTPCIP
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)
<b>Secure</b>	Secure	FIPS 140-2 level 3 (NXP® EdgeLock® SE050F), Device Certificate GlobalSign® pre-installed, User authentication, Host authentication, HTTPS, Data encryption, 802.1X Support
	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 : 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
<b>Mobile Terminal Compatibility</b>	Mobile Terminal Compatibility	iPad, iPhone (iOS 8.0 or later), Android™ terminals
	ONVIF® Profile	G / M / S / T
<b>Alarm</b>	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, TCP alarm notification output
<b>Input/Output</b>	Audio input	For microphone input : Recommended applicable microphone : Plug-in power type (Sensitivity of microphone : -51 dB to -38 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 (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) UL (UL62368-1), c-UL (CSA C22.2 No. 62368-1), CE, IEC62368-1
<b>General</b>	Safety	FCC (Part15 ClassA), ICES-003 Issue 7 ClassA, EN55032 ClassA, EN55035
	EMC	DC12 V, PoE (IEEE802.3af), PoE+ (IEEE802.3at)
	Power Source and Power Consumption	<b>When using at TILT rotation speed 300dps</b> DC12 V : 1.3 A / approx. 15.4 W PoE DC 48 V : 270 mA / approx. 12.95 W (Class 0 device) <b>When using at TILT rotation speed 500dps</b> PoE+ DC 54 V : 350 mA / approx. 18.9 W (Class 4 device)
	Ambient Operating Temperature	-30 °C to +55 °C (-22 °F to +131 °F) (Power On range : -20 °C to +55 °C (-4 °F to +131 °F)) Maximum temperature according to NEMA TS2(2.2.7) : 74 °C(165 °F)
	Ambient Operating Humidity	10 to 100 % (no condensation)
	Anti-Condensation System	Temish element
	Water and Dust Resistance	IP66, IEC60529 measuring standard compatible, Type 4X(UL50E), NEMA 4X compliant
	Shock Resistance	IK10 (IEC 62262)
	Other standard support	NEMA TS2(2.2.7-2.2.9)
	Dimensions	ø165 mm x 139 mm (H) [ø6-1/2 inches x 5-15/32 inches (H)]
Mass (approx.)	Approx. 1.6 kg (3.53 lbs.)	
Finish	Main body : Aluminum die cast, Black polycarbonate resin, i-PRO white Outer fixing screws : Stainless steel (Corrosion-resistant treatment) Dome section : Polycarbonate resin, Clear (G: Smoke)	














\*1 Converted value  
\*2 For information on the operation verification of the supported web browsers, refer to our support website <Control No.: C0132>.  
\*3 Used by super resolution techniques  
\*4 Transmission for 4 streams can be individually set.  
\*5 When recording audio on an microSD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).

# Appearance










## Optional Accessories

### Mount Bracket / Other

combination	WALL		POLE	CORNER	HANGING	
	1	2	1	1	1	2
	Wall Mount Bracket <b>WV-QWL501-W</b> (i-PRO white) 	Wall Mount Bracket <b>WV-QWL500-W</b> (i-PRO white) 	Pole Mount Bracket <b>WV-QPL500-W</b> (i-PRO white) 	Corner Mount Bracket <b>WV-QCN500-W</b> (i-PRO white) 	Ceiling Mount Bracket <b>WV-QCL501-W</b> (i-PRO white) 	Ceiling Mount Bracket <b>WV-QCL100-W</b> *1 (i-PRO white)  *For indoor installation only.
Mount Bracket <b>WV-QSR501-W</b> (i-PRO white) 	Adapter Box <b>WV-QJB500-W</b> (i-PRO white)  *if needed.	Wall Mount Bracket <b>WV-QWL501-W</b> (i-PRO white) 	Wall Mount Bracket <b>WV-QWL501-W</b> (i-PRO white) 	Mount Bracket <b>WV-QSR501-W</b> (i-PRO white) 		
		Mount Bracket <b>WV-QSR501-W</b> (i-PRO white) 	Mount Bracket <b>WV-QSR501-W</b> (i-PRO white) 			

\*1: It's possible to be used on the camera side and ceiling side. If used on both side, 2pieces are required.

combination	CEILING			OTHER
	1	2	3	1
	Base Bracket <b>WV-QJB501-W</b> (i-PRO white) 	Ceiling Mount Bracket (Embedded) <b>WV-QEM503-W</b> (i-PRO white)  *For indoor installation only.	Base bracket <b>WV-QJB504-W</b> (i-PRO white) 	3rd Party Pipe (Male or Female type)
			Mount Bracket <b>WV-QSR501F-W</b> (i-PRO white, ISO Female thread)  <b>WV-QSR501M-W</b> (i-PRO white, ISO Male thread) 	Mount Bracket <b>WV-QSR501F1-W</b> (White, ANSI Female thread)  <b>WV-QSR501M1-W</b> (White, ANSI Male thread) 

### Dome Cover

Dome Cover (Smoke type)  
**WV-QDC502G**



### Cable

I/O Cable  
**WV-QCA501A**  
**WV-QCA501APK**



\*WV-QCA501APK is package of 10 cables.  
 \*The color of the grommet rubber may differ depending on the production time, but the performance and mounting method will not change.

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