

# i-PRO

# WV-U65301-Z1 WV-U65301-Z1G

## U series PTZ camera

# 2MP (1080p) 10x Outdoor PTZ Network Camera

U-Series launch gives customers PTZ's that meet top security certifications (FIPS 140-2 level 3) while also providing a unique blend of imaging performance, reliability and affordability.

### 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

- U-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 x21 and x10 models of the U-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 pigtails 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 level3-certified hardware is installed.

### Key i-PRO Spec.

- 2MP (1080p) 1920x1080
- 10x optical zoom
- Intelligent Auto
- Super Dynamic 144dB
- Color night vision (0.001 to 0.015 lx) (G: 0.003 to 0.045 lx)
- Durable Pan/Tilt gear mechanism
- IP66, IK10 certified
- ONVIF® Profile G / S / T \*ONVIF is a trademark of ONVIF, Inc.
- FIPS 140-2 level3 certified

### Industry examples

- Safe Cities
- Transportation (Airport / Train, Subway station)
- Parking
- Critical infrastructure



WV-U65301-Z1



WV-U65301-Z1G (Smoke Dome)



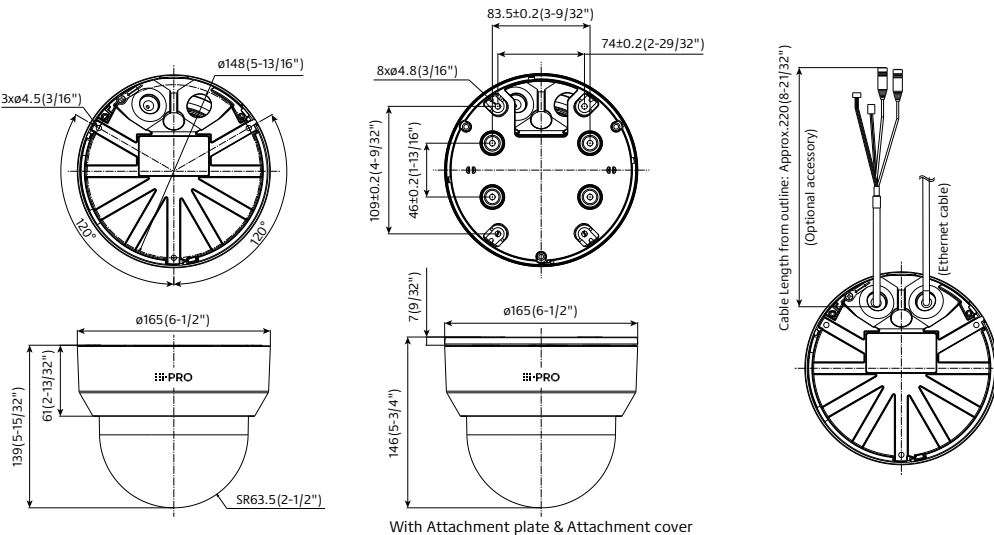
# Specifications

<b>Camera</b>	Image Sensor	Approx. 1/2.8 type CMOS image sensor
	Minimum Illumination	Color : 0.015 lx (G: 0.045 lx) (50IRE, F1.6, 1/30s) Color : 0.001 lx (G: 0.003 lx) (50IRE, F1.6, 16/30s) <sup>*1</sup> BW : 0.0006 lx (G: 0.017 lx) (50IRE, F1.6, 1/30s) BW : 0.0004 lx (G: 0.0011 lx) (50IRE, F1.6, 16/30s)
	White Balance	ATW1 / ATW2 / AWC
	Shutter Speed	[60 fps Mode] 1/60 Fix to 1/10000 Fix, [30 fps/15 fps mode] 1/30 Fix to 1/10000 Fix [50 fps Mode] 1/50 Fix to 1/10000 Fix, [25 fps/12.5 fps mode] 1/25 Fix to 1/10000 Fix
	Intelligent Auto	On / Off
	Super Dynamic <sup>*2</sup>	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 The level can be set in the range of 0 to 31 (only when Super dynamic / Intelligent Auto : 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	—
	AI Analytics	—
	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	<b>[16 : 9 mode]</b> Horizontal : 6.7° (TELE) - 62° (WIDE), Vertical : 3.8° (TELE) - 37° (WIDE) <b>[4 : 3 mode]</b> Horizontal : 5.1° (TELE) - 48° (WIDE), Vertical : 3.8° (TELE) - 37° (WIDE)
Maximum Aperture Ratio	1 : 1.6 (WIDE) - 1 : 3.0 (TELE)	
Focus range	1.5 m [59-1/16 inches] - ∞	
<b>DORI</b>	Detect (25ppm / 8ppf)	Wide: 64.2 m / 210.5 ft, Tele: 656.0 m / 2152.3 ft
	Observe (62.5ppm / 19ppf)	Wide: 25.7 m / 84.2 ft, Tele: 262.4 m / 860.9 ft
	Recognize (125ppm / 38ppf)	Wide: 12.8 m / 42.1 ft, Tele: 131.2 m / 430.5 ft
	Identify (250ppm / 76ppf)	Wide: 6.4 m / 21.1 ft, Tele: 65.6 m / 215.2 ft
<b>System on Chip (SoC)</b>		Ambarella CV25M
<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
	Tilting Range	Operational -15 - +195°
	Tilting Speed	Manual: Approx. 0.065°/s - 150°/s Preset: Up to approx. 500°/s (PoE+), Up to approx. 350°/s (DC12 V PoE)
	Preset Positions	256 positions
	Auto Mode	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
	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
Browser <sup>*3</sup>	Microsoft Edge, Firefox, Google Chrome	
<b>Network</b>	Network IF	10Base-T / 100Base-TX, RJ45 connector
	Resolution	<b>[16 : 9 mode (60 fps mode)]<sup>*2</sup>, [16 : 9 mode (30 fps mode)]<sup>*2</sup>, [16 : 9 mode (50 fps mode)]<sup>*2</sup>, [16 : 9 mode (25 fps mode)]<sup>*2</sup></b> 1920x1080, 1280x720, 640x360, 320x180 <b>[4 : 3 mode (30 fps mode)]<sup>*2</sup>, [4 : 3 mode (25 fps mode)]<sup>*2</sup></b> 1280x960, VGA, QVGA <b>[4 : 3 mode (15 fps mode)]<sup>*2</sup>, [4 : 3 mode (12.5 fps mode)]<sup>*2</sup></b> 2048x1536 <sup>*4</sup> , 1280x960, VGA, QVGA
	H.265 / H.264 <sup>*5</sup>	Transmission Mode Constant bit rate / VBR / Frame rate / Best effort
	Transmission Type	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) <sup>*4</sup> 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>6</sup> : 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, SFTP, MQTT, LLDP IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTSP, RTP/RTCP, SMTP, DHCP, DNS, DDNS, NTP, SNMPv1/v2/v3, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP, SFTP, MQTT, NTCP
	No. of Simultaneous Users	Up to 14 users (Depends on network conditions)
	Secure	FIPS 140-2 level3, Device Certificate GlobalSign <sup>®</sup> pre-installed
	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
	Mobile Terminal Compatibility	iPad, iPhone (iOS 8.0 or later), Android <sup>™</sup> terminals
	ONVIF <sup>®</sup> Profile	G / S / T
	<b>Alarm</b>	Alarm Source
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	Ø3.5 mm stereo mini jack For microphone input : Recommended applicable microphone : Plug-in power type (Sensitivity of microphone : -51 dB to -38 dB (0 dB=1V/Pa, 1 kHz)) Input impedance : Approx. 2 kΩ (unbalanced) Supply voltage : 2.5 V ±0.5 V
	Audio Output	For line input : Input level : Approx. -10 dBV Ø3.5 mm stereo mini jack (monaural output) Output impedance : Approx. 600 Ω (unbalanced) Output level : -20 dBV
<b>External I/O Terminals</b>	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)	
<b>General</b>	Safety	UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1
	EMC	FCC (Part15 ClassA), ICES-003 Issue 7 ClassA, EN55032 ClassA, EN55035
	Power Source and Power Consumption	DC12 V, PoE (IEEE802.3af), PoE+ (IEEE802.3at) DC12 V: 1.3 A / Approx.15.6 W PoE DC 48 V: 270 mA / Approx.12.95 W (Class 0 device) PoE+ DC 54 V: 340 mA / Approx18.4 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 (3.5 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)	

<sup>\*1</sup> Converted value  
<sup>\*2</sup> When 60 fps or 50 fps is selected, the Super Dynamic function is automatically set to off.  
<sup>\*3</sup> For information on the operation verification of the supported web browsers, refer to our support website <Control No. C0132>.  
<sup>\*4</sup> Used by super resolution techniques  
<sup>\*5</sup> Transmission for 4 streams can be individually set.  
<sup>\*6</sup> When recording audio on an microSD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).

# Appearance
















Unit : mm (inches)






With Attachment plate & Attachment cover

## Optional Accessories

### Mount Bracket / Other

	WALL		POLE	CORNER	HANGING	
	1	2	1	1	1	2
combination	Wall Mount Bracket <b>PWM40W</b> (White) 	Wall Mount Bracket <b>WV-QWL500-W</b> (White) 	Pole Mount Bracket <b>PAPM4W</b> (White) 	Corner Mount Bracket <b>PACA4W</b> (White) 	Ceiling Mount Bracket <b>WV-QCL501-W</b> (White) 	Ceiling Mount Bracket <b>WV-QCL101-W</b> <sup>*1</sup> (White) 
	Mount Bracket <b>WV-QSR501F1-W</b> (White, ANSI Female thread) 	Adapter Box <b>WV-QJB500-W</b> (White)  <small>*If needed.</small>	Wall Mount Bracket <b>PWM40W</b> (White) 	Wall Mount Bracket <b>PWM40W</b> (White) 	Mount Bracket <b>WV-QSR501-W</b> (White) 	
			Mount Bracket <b>WV-QSR501F1-W</b> (White, ANSI Female thread) 	Mount Bracket <b>WV-QSR501F1-W</b> (White, ANSI Female thread) 		

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

	CEILING			OTHER
	1	2	3	1
combination	Base Bracket <b>WV-QJB501-W</b> (White) 	Ceiling Mount Bracket (Embedded) <b>WV-QEM503-W</b> (White)  <small>*For indoor installation only.</small>	Base bracket <b>WV-QJB504-W</b> (White) 	3rd Party Pipe (Male or Female type)
				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.