

# WV-X15502-Z1LN

5MP AI Outdoor IR Bullet LPR Camera (10x zoom)

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- 5MP Bullet camera
  - Up to 9 Edge AI analytic apps
  - 10x optical zoom
  - Built-in IR LED (180m/591ft)
  - Embedded LPF (Long Pass Filter)
  - Optimized for license plate recognition
  - IP66, IP67, IK10 certified
  - Built-in FIPS 140-2 Level 3 Certified SecureElement (EdgeLock® SE050F NXP® Semiconductors)
  - NDAA Compliant
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# SPECIFICATIONS

Camera	
Image Sensor	Approx. 1/2.8 type CMOS image sensor
Scanning Area	5.12 mm (H) × 3.84 mm (V) {3/16 inches (H) × 5/32 inches (V)}
Minimum Illumination	Color : 0.04 lx (30IRE, F1.6, 1/30s, AGC:11)* 0.06 lx (50IRE, F1.6, 1/30s, AGC:11) 0.0038 lx (50IRE, F1.6, 16/30s, AGC:11)* BW : 0 lx (50IRE, F1.6, 1/30s, AGC:11, IR LED: On) *Converted value
White Balance	ATW1/ ATW2/ AWC
Shutter Speed	[60 fps mode] 1/60 Fix to 1/10000 Fix [30 fps mode] 1/30 Fix to 1/10000 Fix [50 fps mode] 1/50 Fix to 1/10000 Fix [25 fps mode] 1/25 Fix to 1/10000 Fix
Maximum Shutter	[60 fps mode] Max. 1/4000 s to Max. 16/30 s [30 fps mode] Max. 1/4000 s to Max. 16/30 s [50 fps mode] Max. 1/4000 s to Max. 16/25 s [25 fps mode] Max. 1/4000 s to Max. 16/25 s
Intelligent Auto	On/Off
Super Dynamic	On/Off (Range : 0 to 31)
Dynamic Range	Max. 132 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 (Range : 0 to 31) *only when Super Dynamic/ Intelligent Auto: Off
Fog Compensation	On/Off (Range : 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(IR Light Off)/ On(IR Light On)/ Auto1(IR Light Off)/ Auto2(IR Light On)/ Auto4(LPR)
IR LED Light	High/Middle/Low/Off Maximum irradiation distance: When using PoE++ 180 m {Approx. 591 ft} (30IRE)* 130 m {Approx. 427 ft} (50IRE)  When using PoE+ 120 m {Approx. 394 ft} (30IRE)* 85 m {Approx. 279 ft} (50IRE)  When using DC12V 85 m {Approx. 279 ft} (30IRE)* 60 m {Approx. 196 ft} (50IRE) * Converted value
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 area available
Audio Detection	On/ Off
AI Sound Classification	Selectable from Gunshot, Yell, Vehicle horn, Glass break

Analytics	AI Video Motion Detection, AI Privacy Guard, AI Face Detection, AI People Detection, AI Vehicle Detection, AI Occupancy Detection, AI Scene Change Detection, AI On-site Learning, AI Processing Relay, License Plate Recognition/MMC classification (3rd party application)*1  For details: <a href="https://i-pro.com/products_and_solutions/en/surveillance/products/analytics-software">https://i-pro.com/products_and_solutions/en/surveillance/products/analytics-software</a> 3rd party applications are also available. <a href="https://i-pro.com/products_and_solutions/en/surveillance/solutions/edge-ai-platform/application-list">https://i-pro.com/products_and_solutions/en/surveillance/solutions/edge-ai-platform/application-list</a>
Max. Number of Applications	9
Privacy Zone	On/Off, Up to 8 zones available Color : gray/white/blue/green/red/black, or mosaic
VIQS	On/Off, Up to 8 zones available
Image Rotation	0° (Off) / 90° / 180° (Upside-down) / 270°
Image Stabilizer	On/Off (Built-in gyro sensor) Available only in the 30/25 fps mode
Camera Title (OSD)	On/Off Up to 40 characters, Up to 2 lines (alphanumeric characters, marks)

### License Plate Recognition \*2

Vehicle Speed (Daytime/Nighttime)	Up to 130 km/h {81 mph} * (Distance : 30 m {98 ft}) *For nighttime, when using PoE++
Detection Range (Daytime/Nighttime)	20 m to 55 m {66 ft to 180 ft} (Vehicle speed : Stopped) *For nighttime, when using PoE++
Installation	[Height] Up to 10 m {33 ft} [Angle] Max. Vertical Angle : 30° Max. Horizontal Angle : 25° Max. Roll Angle : 25° [Horizontal offset from road] Up to 10 m {33 ft}

### Lens

Optical Zoom	10x (Motorized zoom / Motorized focus)
Digital (electronic) Zoom	max 160x
Focal Length	4.7 mm – 47 mm {3/16 inches – 1-27/32 inches}
Angular Field of View	[16:9 mode] Horizontal: 6.1° (TELE) – 58° (WIDE) Vertical: 3.4° (TELE) – 34° (WIDE) [4:3 mode] Horizontal: 6.1° (TELE) – 58° (WIDE) Vertical: 4.6° (TELE) – 45° (WIDE)
Adjusting Angle	Ceiling mounting Horizontal : ±180 ° (PAN rotation part) Vertical : 0 ° to 100 ° (TILT rotation part) Yaw : -240 ° to +100 ° (YAW rotation part) Wall mounting Horizontal : ±100 ° (TILT rotation part)* Vertical : ±100 ° (TILT rotation part)* Yaw : -240 ° to +100 ° (YAW rotation part) * You can change between horizontal and vertical angels by adjusting the PAN rotation part.
Maximum Aperture Ratio	1:1.6 (WIDE) – 1:3.0 (TELE)
Focus Range	1.5 m {59-1/16 inches} – ∞
Aperture Range	F1.6 – Close

### DORI

Detect (25ppm / 8ppf)	92.4 m {303.0 ft} (WIDE) 960.9 m {3152.6 ft} (TELE)
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Observe (62.5ppm / 19ppf)	36.9 m {121.2 ft} (WIDE) 384.4 m {1261 ft} (TELE)
Recognize (125ppm / 38ppf)	18.5 m {60.6 ft} (WIDE) 192.2 m {630.5 ft} (TELE)
Identify (250ppm / 76ppf)	9.2 m {30.4 ft} (WIDE) 96.1 m {315.3 ft} (TELE)
<b>System on Chip</b>	
System on Chip (SoC)	Ambarella CV52
<b>Preset Positions</b>	
No. of Preset Positions	8
Auto Mode	Preset sequence
Self Return	10 s, 20 s, 30 s, 1 min, 2 min, 3 min, 5 min, 10 min, 20 min, 30 min, 60 min
<b>Browser GUI</b>	
GUI / Setup Menu Language	English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese
Browser *3	Microsoft Edge, Firefox, Google Chrome
<b>Network</b>	
Network IF	10BASE-T/100BASE-TX, RJ45 connector
Resolution	[16:9mode(60fps mode)][16:9mode(50fps mode)] 3072x1728*/2560x1440 [16:9mode(30fps mode)][16:9mode(25fps mode)] 3072x1728*/2560x1440/1920x1080/1280x720/640x360/320x180 [4:3mode(60fps mode)][4:3mode(50fps mode)] 3072x2304*/2560x1920 [4:3mode(30fps mode)][4:3mode(25fps mode)] 3072x2304*/2560x1920/1280x960/800x600/640x480/400x300/320x240 *By super resolution techniques
H.265/H.264 Transmission Mode/Type	[Transmission Mode] Constant bit rate/ VBR/ Frame rate/ Best effort [Transmission Type] Unicast port (AUTO)/ Unicast port (MANUAL)/ Multicast
No. of Stream	4
JPEG (MJPEG) Image Quality	10 steps: 0(SUPER FINE) - 9(LOW)
Smart Coding	[GOP(Group of pictures) control] Off/ Low (Variable GOP 1s-8s)/ Mid (Variable GOP 4s-16s)/Frame rate control (Variable GOP 4s-16s with frame rate control) *Frame rate control are only available with H.265. [Smart VIQS] On(High)/On(Low)/Off [Smart P-picture control] On/Off
Audio Compression Method *4	G.726 (ADPCM): 16 kbps/ 32 kbps G.711: 64 kbps AAC-LC: 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, FTP, SFTP, LLDP, MQTT 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, FTP, SFTP, LLDP, MQTT
No. of Simultaneous Users	Up to 14 users (Depends on network conditions)
Secure	FIPS 140-2 level 3 (NXP® EdgeLock® SE050F), Device Certificate GlobalSign® pre-installed, HTTPS, User authentication, digest authentication, Host authentication, IEEE802.1X, System log, Image transmission log, brute-force protection, Alteration Detection, Secure boot, Signed firmware
SDXC/SDHC/SD Memory Card (Option)	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™ terminals
ONVIF®Profile	G / M / S / T

## Alarm

Alarm Source	3 terminals input, VMD alarm, SCD 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, MQTT alarm notification, FTP/SFTP image transfer, SNMP trap notification

## Input/Output

Built-in Microphone	-
Audio Input *5	<p>ø3.5 mm stereo mini jack</p> <p>For microphone input:</p> <p>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</p> <p>For line input:</p> <p>Input level: Approx. -10 dBV</p>
Audio Output *5	<p>ø3.5 mm stereo mini jack (Audio output is monaural.)</p> <p>Output impedance: Approx. 600 Ω (unbalanced) Output level: -20 dBV</p>
External I/O Terminals *5	<p>ALARM IN1 (Alarm input 1/ Black &amp; white input/ Auto time adjustment input) (x1)</p> <p>ALARM IN2 (Alarm input 2/ ALARM OUT) (x1)</p> <p>ALARM IN3 (Alarm input 3/ AUX OUT) (x1)</p>
Monitor Output	<p>Yes (for adjustment)</p> <p>Pin jack, NTSC or PAL signal can be output from camera</p>

## General

Safety	UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1
EMC	FCC (Part15 ClassA), ICES-003 ClassA
Power Source/Power Consumption *5	<p>[Power Source]</p> <p>DC12V</p> <p>PoE+ (IEEE802.3at compliant)</p> <p>PoE++ (IEEE802.3bt compliant)</p> <p>[Power Consumption]</p> <p>DC12V : 1.3A / Approx. 15.6 W</p> <p>PoE+ DC 54 V : 460 mA / Approx. 24.8 W (Class 4 device)</p> <p>PoE++ DC 54 V : 600 mA / Approx. 32.4 W (Class 5 device)</p>
Ambient Operating Temperature	<p>-40 °C to +60 °C {-40 °F to +140 °F} (PoE++)</p> <p>(Power On range: -30 °C to +60 °C {-22 °F to +140 °F})</p> <p>* When using with the IR LED light lit, the upper limit of the operating temperature range is +50 °C (+122 °F).</p> <p>*When using DC12V, the lower limit of the operating temperature range is -30°C {-22 °F}.</p>
Ambient Operating Humidity	10 % to 100 % (no condensation)
Water and Dust Resistance	IP66/ IP67 (IEC 60529), Type 4X (UL50E), NEMA 4X compliant
Shock Resistance	IK10(IEC 62262)
Vibration Resistance	IEC 60721-3-4 4M4 compliant
Wind Resistance	Up to 40 m/s {approx. 89 mph}
Dimensions	<p>When the sunshade is in its initial position</p> <p>Φ168 mm x 403 mm (D) {Φ6-5/8 inches x 15-7/8 inches(D)}</p> <p>When moving the sunshade forward</p> <p>Φ168 mm x 456 mm (D) {Φ6-5/8 inches x 17-15/16 inches(D)}</p>
Mass (approx.)	Approx. 3.6kg {8.0 lbs} (Including accessories)

Finish	Main body: Aluminum die cast, i-PRO white Outer fixing screws: Stainless steel (Corrosion-resistant treatment) Front panel: PC resin, Clear (with ClearSight coating)
Easy Kitting	Supported

## NOTES

\*1 Vaxtor LPR application (VaxALPR) is pre-installed with a 30-day free trial license.

At the conclusion of the free trial period, a valid license must be purchased in order to continue using the application.

Please contact i-PRO regional representative.

\*2 Performance when using Vaxtor LPR app (VaxALPR). Recognition performance could be affected by the installation environment.

\*3 For information on the operation verification of the web browsers, refer to our support website <Control No.: C0132>.

\*4 When recording audio on an SD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity) .

\*5 When using a 12 V DC power supply, EXT I/O terminal, audio input, and audio output, I/O cable (WV-QCA501A) is required.

### 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 any third-party products (including applications) used on the network.

– Masses and dimensions are approximate.

– Specifications are subject to change without notice.

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## OPTIONAL ACCESSORIES

Select a compatible accessory

[Accessory Selector \(i-pro.com\)](http://i-pro.com)



WV-QPL500-W  
Mount Bracket



WV-QCN500-W  
Mount Bracket



WV-QCL101-W  
Mount Bracket



WV-QCL100-W  
Mount Bracket



WV-Q105A  
Mount Bracket



WV-SDB256G  
i-PRO SD Memory Card



WV-SDB128G  
i-PRO SD Memory Card



WV-SDB064G  
i-PRO SD Memory Card



WV-SDB032G  
i-PRO SD Memory Card



WV-QCA501A  
I/O Cable

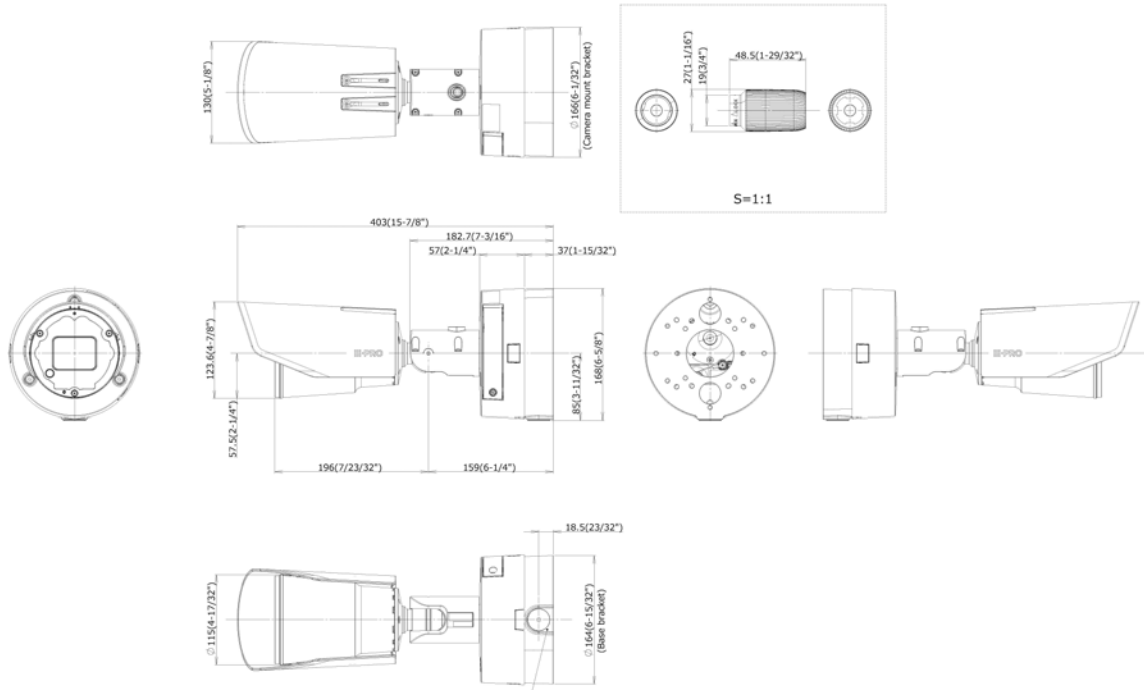


WV-PM500  
Compact microphone  
unit



WJ-PU201P  
PoE Injector

# APPEARANCE



接続管用φ32  
 Cap for the female thread for the conduit  
 JIS C 8305(電線管φ32)にCTG22. 対応  
 JIS B 0202(管用平行径φ32)にCT14です。  
 The female thread for conduit is compliant with  
 ANSI NPSM (parallel pipe threads) 3/4 or  
 ISO 228-1 (parallel pipe threads) G3/4.

	投影面積 / Projected area
平面図 / Top-view	0.045(m <sup>2</sup> )
側面図 / Side-view	0.041(m <sup>2</sup> )
Mass : Approx. 3.6 kg (7.95 lbs)	

Unit:mm