

## New S-series wide lineup high resolution network camera with AI engine

# 5MP Vandal Resistant Outdoor Dome Network Camera

Equipped with an AI processor, it can run up to three AI analytics applications (AI apps) simultaneously, which significantly improve the detection rate of people and vehicles and can be used in a wide range of surveillance scenes.

It realizes high-quality and clearer images even in low-light and wide-range shooting scenes.

### 3 AI Apps operation at same time

- Up to 3 AI apps can be operated at the same time from the wide variety.

Using AI processor which identifies object as people or vehicle, it will reduce false alarm compared to conventional model.

As result, it can be used many industries.

### High image quality / High compression

- Our original smart coding technology compatible with H.264 and H.265 delivers high-resolution video at high image quality and low bit rate. Achieved useful images by combining with highly visible images by the intelligent auto (iA) function.

### Easy setting and installation

- Easy Kitting Package enabling installers to configure cameras easily while keeping the unit in the box.\*

The grommet on the outdoor model can reduce the time and effort required for installation.

User-friendly GUI (setting while watching Live view, etc.) allows you to set comfortably.

iCT tool allows you to set multiple cameras, apps, and recorders all at once, reducing the camera setting time.

\*The kitting process should be done within 1hour. The inside of the camera gets hot and may cause a malfunction.

### High security

- Equipped with FIPS 140-2 level 3 certified hardware in addition to the digital certificate issued by a third party organization (GlobalSign®).

#### Key i-PRO Spec.

- 5MP
- Intelligent Auto (with AI Engine)
- Super Dynamic 132dB
- Color night vision (0.05 to 0.07 lx)
- Smart Coding (with AI Engine)
- ClearSight Coating
- Built-in IR LED
- 50J, IK10 Vandal Resistant
- ONVIF® Profile G / M / S / T
- \*ONVIF is a trademark of ONVIF, Inc.
- FIPS 140-2 level3 certified

#### Industry examples

- Safe Cities
- Transportation (Airport / Train, Subway station)
- Bank (ATM, Entrance)
- Retail / Logistics / Education / Hospital / Building



## Specifications

|                             |   |  |
|-----------------------------|---|--|
| <b>Camera</b>               | Image Sensor  | Approx. 1/2.8 type CMOS image sensor   |
|                             | Minimum Illumination  | Color : 0.05 lx (30IRE, F1.3, 1/30s) *1<br>Color : 0.07 lx (50IRE, F1.3, 1/30s)<br>BW : 0.04 lx (50IRE, F1.3, 1/30s)<br>BW : 0 lx (50IRE, F1.3, 1/30s with IR LED)                                     |
|                             | White Balance   | ATW1 / ATW2 / AWC  |
|                             | Shutter Speed   | [30 fps/15 fps mode] 1/30 Fix to 1/10000 Fix<br>[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)  |
|                             | 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,<br>Maximum irradiation distance : 55 m {Approx. 180 ft} (30IRE) *1<br>40 m {Approx. 131 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*2            | 0° / 90° / 180° / 270°  |  |
| Camera Title (OSD)          | On / Off, Up to 40 characters (alphanumeric characters, marks)  |  |
| Focus Adjustment            | Auto focus  |  |
| <b>Lens</b>                 | Optical zoom  | 3.1x (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 - 11/32 inches]   |
|                             | Angular Field of View   | <b>[16 : 9 mode]</b><br>Horizontal : 33° (TELE) - 103° (WIDE), Vertical : 19° (TELE) - 55° (WIDE)<br><b>[ 4 : 3 mode]</b><br>Horizontal : 33° (TELE) - 103° (WIDE), Vertical : 25° (TELE) - 75° (WIDE) |
| Maximum Aperture Ratio      | 1 : 1.3 (WIDE) - 1 : 2.5 (TELE)                                 |  |
| Focus range                 | 0.3 m (11-13/16 inches) - ∞                                     |  |
| <b>DORI</b>                 | Detect (25ppm / 8ppf)   | Wide: 48.9 m / 160.3 ft, Tele: 207.4 m / 680.5 ft  |
|                             | Observe (62.5ppm / 19ppf)                                       | Wide: 19.5 m / 64.1 ft, Tele: 83.0 m / 272.2 ft  |
|                             | Recognize (125ppm / 38ppf)                                      | Wide: 9.8 m / 32.1 ft, Tele: 41.5 m / 136.1 ft   |
|                             | Identify (250ppm / 76ppf)                                       | Wide: 4.9 m / 16.0 ft, Tele: 20.7 m / 68.1 ft  |
| <b>System on Chip (SoC)</b> | Ambarella CV22  |  |
| <b>Adjusting Angle</b>      | Horizontal : -194 to +166°, Vertical : -30 to +85°, Yaw : ±100° |  |
| <b>Browser GUI</b>          | Camera Control  | Brightness, AUX On / Off   |
|                             | Audio   | Mic (Line) Input : On / Off Volume adjustment : Low / Middle / High<br>Audio Output : On / Off Volume adjustment : Low / Middle / High   |
|                             | GUI / Setup Menu Language                                       | English, Italian, French, German, Spanish, Portuguese, Russian, Chinese, Japanese  |
| Browser*3                   | Microsoft Edge, Firefox, Google Chrome                          |  |
| <b>Network</b>              | Network I/F   | 10Base-T / 100Base-TX, RJ45 connector  |
|                             | Resolution  | <b>[16:9 mode (30 fps mode)]</b> [16:9 mode (25 fps mode)]<br>3072x1728*4 / 2560x1440 / 1920x1080 / 1280x720 / 640x360 / 320x180   |
|                             | H.265 / H.264 / JPEG (MJPEG)                                    | <b>[4:3 mode (30 fps mode)]</b> [4:3 mode (25 fps mode)]<br>3072x2304*4 / 2560x1920 / 1280x960 / 800x600 / VGA / 400x300 / 320x240   |
|                             | H.265 / H.264*5 Transmission Mode                               | Constant bit rate / VBR / Frame rate / Best effort   |
|                             | H.264*5 Transmission Type                                       | Unicast port (AUTO) / Unicast port (MANUAL) / Multicast  |
| JPEG Image Quality          | 10 steps  |  |

\*1 Converted value

\*2 When the 320x180 resolution is used, the "90°" and "270°" settings are not available.

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

\*4 Used by super resolution techniques

\*5 Transmission for 4 streams can be individually set.

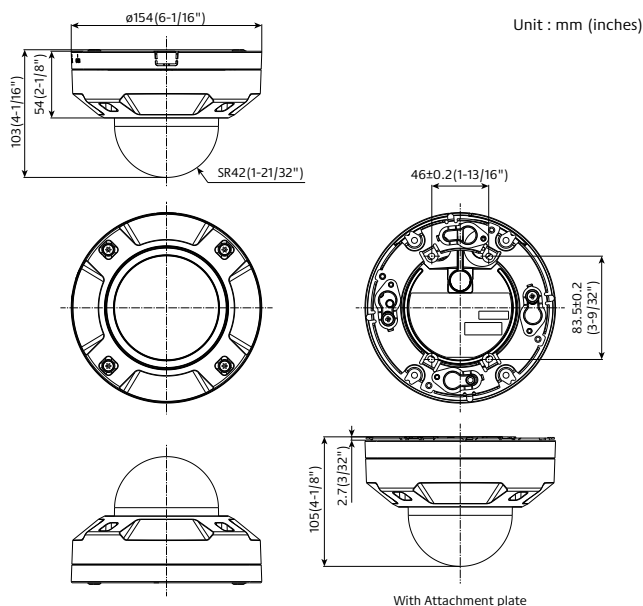
|                      |                                    |  |
|----------------------|------------------------------------|--|
| <b>Network</b>       | Smart Coding                       | <b>GOP(Group of pictures) control:</b><br>Off / Low (Variable GOP 1s-8s) / Mid (Variable GOP 4s-16s) /<br>Advanced (Fixed GOP 60s w/1s key-frame) /<br>Frame rate control (Variable GOP 4s-16s with frame rate control)<br>*Advanced and Frame rate control are only available with H.265.<br><b>Smart VIQS:</b> On(High)/On(Low)/Off, <b>Smart P-picture control:</b> On/Off          |
|                      | Audio Compression                  | G.726 (ADPCM) : 16 kbps / 32 kbps<br>G.711 : 64 kbps<br>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,<br>DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X, DiffServ, SFTP, MQTT, LLDP<br>IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTP, RTSP, RTP/RTCP,<br>SMTP, DHCP, DNS, DDNS, NTP, SNMPv1/v2/v3, UPnP, IGMP,<br>ICMP, ARP, IEEE 802.1X, DiffServ, SFTP, SFT, MQTT, LLDP  |
|                      | No. of Simultaneous Users          | Up to 14 users (Depends on network conditions)   |
|                      | Secure                             | FIPS 140-2 level3  |
|                      | SDXC/SDHC/SD Memory Card           | H.265 / H.264 recording :<br>Manual REC / Alarm REC (Pre/Post) / Schedule REC / Backup upon network failure<br>JPEG recording :<br>Manual REC / Alarm REC (Pre/Post) / Backup upon network failure<br>Compatible SDXC/SDHC/SD Memory Card :<br>microSDXC memory card : 64 GB, 128 GB, 256 GB, 512 GB<br>microSDHC memory card : 4 GB, 8 GB, 16 GB, 32 GB<br>microSD memory card : 2 GB |
|                      | Mobile Terminal Compatibility      | iPad, iPhone (iOS 8.0 or later), Android™ terminals  |
|                      | ONVIF® Profile                     | G / M / 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> | Monitor Output (for adjustment)    | VBS : 1.0 V [p-p] / 75 Ω, composite, Pin jack<br>An NTSC or PAL signal can be outputted from camera  |
|                      | Audio input*7                      | Ø3.5 mm stereo mini jack<br>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))<br>Input impedance : Approx. 2 kΩ (unbalanced)<br>Supply voltage : 2.5 V ±0.5 V<br>For line input : Input level : Approx. -10 dBV  |
|                      | Audio Output*7                     | Ø3.5 mm stereo mini jack (monaural output)<br>Output impedance : Approx. 600 Ω (unbalanced)<br>Output level : -20 dBV  |
|                      | External I/O Terminals*7           | ALARM IN 1 (Alarm input 1/ Black & white input/ Auto time adjustment input) (x1)<br>ALARM IN 2 (Alarm input 2/ ALARM OUT) (x1), ALARM IN 3 (Alarm input 3/ AUX OUT) (x1)<br>UL (UL62368-1), c-UL (CSA C22.2 No. 62368-1), CE, IEC62368-1   |
| <b>General</b>       | Safety                             | FCC (Part15 ClassA), ICES-003 ClassA, EN55032 ClassA, EN55035  |
|                      | EMC                                | DC power supply*7 : DC12 V 1.0 A, Approx. 12.0 W<br>PoE (IEEE802.3af compliant) Device : DC48 V 240 mA, Approx. 11.5 W (Class 0 device)  |
|                      | Power Source and Power Consumption | -40 °C to +60 °C (-40 °F to 140 °F)*8<br>(Power On range : -30 °C to +60 °C (-22 °F to +140 °F))   |
|                      | Ambient Operating Temperature      | 10 to 100 % (no condensation)  |
|                      | Ambient Operating Humidity         | Temish element + Heater + moisture absorption gel  |
|                      | Anti-Condensation System           | IP66, IEC60529 measuring standard compatible, Type 4X(UL50E), NEMA 4X compliant  |
|                      | Water and Dust Resistance          | 50I (IEC 60068-2-75 compliant), IK10 (IEC62262)  |
|                      | Shock Resistance                   | Ø154 mm x 105 mm (H) [Ø6-1/16 inches x 4-1/8 inches (H)]   |
|                      | Dimensions                         | Approx. 1.1 kg [2.43 lbs.]   |
|                      | Mass (approx.)                     | Main body : Aluminum die cast, Black<br>Outer fixing screws : Stainless steel (Corrosion-resistant treatment)<br>Dome section : Polycarbonate resin, Clear (with ClearSight coating)   |
| Finish               |                                    |  |

\*6 When recording audio on a microSD memory card, only use AAC-LC (Advanced Audio Coding - Low Complexity).

\*7 When using with these, WW-QCA501A cable is required.

\*8 When using with the IR LED light constantly lit, the upper limit of the operating temperature range is +50 °C (+122 °F).

## Appearance



## AI Analytics applications

<https://i-pro.com/global/en/surveillance/products/i-pro-ai-application>

### 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, backlight, 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.

### AI Non mask Detection

Deep-learning and proprietary image processing technologies recognize mask and detect people who are not wearing them.

### AI Occupancy Detection

Detecting the congestion via network camera with AI engine enables that information to be used direct visitors in advance or help store staff work more efficiently.

3rd party applications are also available.

<https://i-pro.com/global/en/surveillance/i-pro-application-platform/application-list>

## Optional Accessories

### Fiber Optic Media Converter Unit

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

#### WV-S25F1 (Light gray)



#### • Basic specifications

|                                 |   |
|---------------------------------|---|
| Power source                    | 24 V AC(50 Hz/60 Hz)  |
| Ambient Operating Temperature : | -40 °C to +60 °C (-40 °F to 140 °F) (Power On range: -30 to +60 [-22 °F to 140 °F]) |
| Ambient Operating Humidity :    | 10 % to 100 % (no condensation)   |
| Waterproof                      | IP66 (IEC60529)   |
| Shock resistance                | IK10 (IEC62262)   |

\*This unit requires an SFP module.  
\*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<br>(For 6.5 mm pitch SFP) |

### Mount Bracket / Other

| WALL   |  |  | POLE   |   |   |
|--|--|--|--|---|---|
| 1  | 2  | 3  | 1  |   |   |
| <b>Wall Mount Bracket WV-QWL501-B</b><br>(Black)<br> | <b>Wall Mount Bracket WV-QWL500-B</b><br>(Black)<br>               | <b>Sun Shade WV-QSR500-W</b><br>(i-PRO white)<br>    | <b>Pole Mount Bracket WV-QPL500-B</b><br>(Black)<br> |   |   |
| <b>Mount Bracket WV-QSR501-B</b><br>(Black)<br>      | <b>Adapter Box WV-QJB500-W</b><br>(i-PRO white)<br><br>*If needed. | <b>Base Bracket WV-QJB501-W</b><br>(i-PRO white)<br> | <b>Wall Mount Bracket WV-QWL501-B</b><br>(Black)<br> | <b>Mount Bracket WV-QSR501-B</b><br>(Black)<br> | <b>Wall Mount Bracket WV-QWL500-B</b><br>(Black)<br>(+ <b>WV-QJB500-W</b> )<br> |

| CORNER   |   |   | HANGING   |  | CEILING   |  |   |
|--|---|---|---|--|---|--|---|
| 1  |   |   | 1   | 2  | 1   | 2  | 3   |
| <b>Corner Mount Bracket WV-QCN500-W</b><br>(i-PRO white)<br> |   |   | <b>Ceiling Mount Bracket WV-QCL501-W</b><br>(i-PRO white)<br> | <b>Ceiling Mount Bracket WV-QCL100-B</b> *1<br>(Black)<br><br>*For indoor installation only. | <b>Ceiling Mount Bracket WV-QEM500-W</b><br>(i-PRO white)<br>(Embedded)<br> | <b>Base Bracket WV-QJB501-W</b><br>(i-PRO white)<br> | <b>Ceiling Mount Bracket WV-Q105A</b><br><br>*For indoor installation only. |
| <b>Wall Mount Bracket WV-QWL501-B</b><br>(Black)<br>         | <b>Mount Bracket WV-QSR501-B</b><br>(Black)<br> | <b>Wall Mount Bracket WV-QWL500-B</b><br>(Black)<br>(+ <b>WV-QJB500-W</b> )<br> | <b>Mount Bracket WV-QSR501-B</b><br>(Black)<br>               | 3rd parties pipe   |   |  |   |

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

| OTHER   |   |
|---|---|
| 1   |   |
| <b>Attachment pipe (For 3rd party bracket) WV-QAT500-W</b><br>(i-PRO white)<br> | <b>Mount Bracket WV-QSR501-B</b><br>(Black)<br> |

#### • Dome Cover

|  |   |   |
|--|---|---|
| <b>Dome Cover (Smoke type) WV-CW7S</b><br> | <b>Dome Cover (Smoke type with ClearSight coating) WV-CW7SN</b><br> | <b>Dome Cover (Clear type with ClearSight coating) WV-CW7CN</b><br> |
|--|---|---|

#### • Cable

|  |  |
|--|--|
| <b>RJ45 Ethernet Cable WV-QCA500A WV-QCA500APK</b><br> | <b>I/O Cable WV-QCA501A WV-QCA501APK</b><br> |
|--|--|

\*WV-QCA500APK and WV-QCA501APK are 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.