

WV-S4556LM

5MP Sensor IR In-vehicle 360 Fisheye Network Camera with AI engine

Edge AI 360-degree fisheye camera that provides video surveillance without any blind spots and business intelligence.



- 2192x2192 pixel fisheye images up to 30fps
- Intelligent Auto (with AI Engine)
- Super Dynamic 120dB
- Smart Coding (with AI Engine)
- IP66, IK10, 50J compliant, Anti-Condensation System
- Built-in IR LED
- NDAA Compliant



SPECIFICATIONS

| Camera | |
|------------------------------|--|
| Image Sensor | Approx. 1/3 type 5MP CMOS image sensor |
| Minimum Illumination | Color : 0.15 lx, BW : 0.02 lx (F2.4, Maximum shutter : Off (1/30 s), AGC : 11) BW : 0 lx (F2.4, Maximum shutter : Off (1/30 s), AGC : 11, when the IR LED is lit) Color : 0.01 lx, BW : 0.0013 lx (F2.4, Maximum shutter : max. 16/30s, AGC : 11) |
| Intelligent Auto | On / Off |
| Maximum Shutter | max. 16/30s to Max. 1/10000s |
| Wide Dynamic Range | On / Off, The level can be set in the range of 0 to 31. |
| Dynamic Range | Max.120 dB (Super Dynamic : On, level : 31) |
| 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 (IR Light Off) / On (IR Light On) / Auto1 (IR Light Off) / Auto2 (IR Light On) / Auto3 (SCC) |
| IR LED Light | High* / Middle / Low / Off *Maximum irradiation distance : 14 m {Approx. 45 ft} (30IRE), 10 m {Approx. 33 ft} (Mounting height : Approx. 3 m, Peripheral intensity control : On) |
| 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 Sound Classification |
| AI Analytics | AI-VMD/AI People Counting for 360-degree fisheye camera, AI Privacy Guard for 360-degree fisheye camera, AI Scene Change Detection, AI Scene Change Detection For details https://i-pro.com/global/en/surveillance/products/i-pro-ai-application 3rd party applications are also available. https://i-pro.com/global/en/surveillance/i-pro-application-platform/application-list |
| Privacy Zone | On / Off, Up to 8 zones available |
| Camera Title (OSD) | On / Off, Up to 20 characters (alphanumeric characters, marks) |
| Fixing angle adjustment | -5°, 0°, +5° |
| Lens | |
| Zoom Ratio | 1x |
| Digital (Electronic) Zoom | Choose from 3 levels of x1, x2, x4 |
| Focal Length | 0.84 mm {1/32 inches} |
| Maximum Aperture Ratio | 1:2.4 |
| Focus Range | 0.3 m {11-13/16 inches} - ∞ |
| Angular Field of View | Horizontal : 186° Vertical : 186° |

| DORI | |
|---|---|
| Distance to the object in the center of the image | Detect (25 ppm / 8 ppf) : 20.7 m / 68.0 ft , Observe (62.5 ppm / 19 ppf) : 8.3 m / 27.2 ft Recognize (125 ppm / 38 ppf) : 4.1m / 13.6ft , Identify (250 ppm / 76 ppf) : 2.1m / 6.8ft |
| Coverage radius when mounted at a height of 3 m (10 ft) | Detect (25 ppm / 8 ppf) : 38.0m / 124.6ft , Observe (62.5 ppm / 19 ppf) : 13.2m / 43.3ft Recognize (125 ppm / 38 ppf) : 4.3 m / 14.1 ft , Identify (250 ppm / 76 ppf) : — |
| Browser GUI | |
| 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 |
| Network | |
| Network IF | 10Base-T / 100Base-TX, M12 connector |
| Resolution <Ceiling> <Wall> | <ul style="list-style-type: none"> •Fisheye mode (max. 30 fps/25 fps) : 2192×2192 / 1280×1280 / 640×640 / 320×320 •Quad PTZ mode (max. 30 fps/25 fps), Single PTZ mode (max. 30 fps/25 fps) 1600×1200 / 1280×960 / 800×600 / VGA / QVGA |
| Resolution <Ceiling> | <ul style="list-style-type: none"> •Double Panorama mode (max. 30 fps/25 fps) 1920×1080 / 1280×720 / 640×360 / 320×180 •Fisheye + Double Panorama mode (max. 30 fps/25 fps) (Fisheye) 2192×2192 / 1280×1280 / 640×640 / 320×320 (Double Panorama) 1280×720 / 640×360 / 320×180 •Fisheye + Quad PTZ mode (max. 30 fps/25 fps) (Fisheye) 2192×2192 / 1280×1280 / 640×640 / 320×320 (Quad PTZ) 1280×960 / 800×600 / VGA / QVGA •Quad streams mode (Single PTZ (Quad streams)) 1280×960 / 800×600 / VGA / QVGA (max. 30 fps/25 fps) (Quad PTZ) 1600×1200 / 1280×960 / 800×600 / VGA / QVGA (max. 5 fps) |
| Resolution <Wall> | <ul style="list-style-type: none"> •Panorama mode (max. 30 fps/25 fps) : 1920×1080 / 1280×720 / 640×360 / 320×180 •Fisheye + Panorama mode (max. 30 fps/25 fps) (Fisheye) 2192×2192 / 1280×1280 / 640×640 / 320×320 (Panorama) 1280×720 / 640×360 / 320×180 |
| H.265/H.264 | [Transmission Mode] Constant bit rate / VBR / Frame rate / Best effort [Transmission Type] Unicast port (AUTO) / Unicast port (MANUAL) / Multicast |
| JPEG | [Image Quality] 10 steps |
| Smart Coding | GOP (Group of pictures) control : On (Frame rate control)* / On (Advanced)* / On (Mid) / On (Low) / Off *On (Frame rate control) and On (Advanced) are only available with H.265. Auto VIQS : On / Off |
| Audio Compression | G.726 (ADPCM) : 16 kbps / 32 kbps, G.711: 64 kbps, AAC-LC : 64 kbps / 96 kbps / 128 kbps |
| Supported Protocol | IPv6 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, SMTP, DNS, NTP, SNMP v1/v2/v3, DHCPv6, RTP, MLD, ICMP, ARP, IEEE 802.1X, DiffServ IPv4 : TCP/IP, UDP/IP, HTTP, HTTPS, SSL/TLS, RTSP, RTP, RTP/RTCP, SMTP, DHCP, DNS, DDNS, NTP, SNMP v1/v2/v3, UPnP, IGMP, ICMP, ARP, IEEE 802.1X, DiffServ, SRTP |
| Maximum concurrent access number | Up to 14 users (Depends on network conditions) |
| Secure | Device Certificate GlobalSign® pre-installed, User authentication, Host authentication, HTTPS, 802.1X Support, Data encryption |
| SDXC/SDHC/SD Memory Card (Option) | H.265 / H.264 recording : Manual REC / Alarm REC (Pre/Post) / Schedule REC JPEG recording : Manual REC / Alarm REC (Pre/Post) Compatible SDXC/SDHC/SD card : 2 GB, 4 GB*, 8 GB*, 16 GB*, 32 GB*, 64 GB**, 128 GB**, 256 GB**, 512GB**model *SDHC card, ** SDXC card (except miniSD card and microSD card) |
| Mobile Terminal Compatibility | iPad / iPhone, Android™ terminals |
| ONVIF Profile | G / M / S / T |
| Alarm | |
| Alarm Source | 3 terminals input, VMD, Command alarm |
| Alarm Actions | SDXC/SDHC/SD memory recording, E-mail notification, HTTP alarm notification Indication on browser, TCP alarm notification output |

| Input/Output | |
|------------------------|--|
| Audio Input | ø3.5 mm stereo mini jack, Recommended applicable microphone : Plug-in power type (Sensitivity of microphone : -48 dB ±3 dB (0 dB=1 V / Pa,1 kHz)) Input impedance : Approx. 2 kΩ (unbalanced) Supply voltage : 2.5 V ±0.5 V |
| 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 (Black & white input, Auto time adjustment) (x1), ALARM IN 2 (ALARM OUT) (x1), ALARM IN 3 (AUX OUT) (x1) |

| General | |
|------------------------------------|---|
| Safety | UL (UL62368-1), c-UL (CSA C22.2 No.62368-1), CE, IEC62368-1 |
| EMC | FCC (Part15 ClassA), ICES003 ClassA, EN55032 ClassB, EN55024, EN55035 ECE-R10, EN50498 compliant, EN50121 |
| Power Source and Power Consumption | DC power supply : DC12 V 1.03 A, Approx. 12.4 W PoE (IEEE802.3af compliant, Alternative A) Device : DC48 V 260 mA, Approx. 12.5 W (Class 0 device) |
| Ambient Operating Temperature | IR LED : On -40 °C to +50 °C (-40 °F to 122 °F) / Off -40 °C to +60 °C (-40 °F to 140 °F) |
| Ambient Operating Humidity | 10 to 100 % (no condensation) |
| Anti-Condensation System | Rosahl element |
| Water and Dust Resistance | IP66 (IEC60529), Type 4X (UL50), NEMA 4X compliant |
| Shock Resistance | 50J (IEC 60068-2-75 compliant), IK10 (IEC 62262) |
| Wind Resistance | Up to 40 m/s {approx. 89 mph} |
| Railway Application | EN45545 compliant, EN50155-TX |
| Dimensions | When using the attachment plate : ø154 mm × 60.3 mm (H) {ø6-1/16 inches × 2-3/8 inches (H)} , Dome radius 35 mm {1-3/8 inches} |
| Mass (Approx.) | When using the attachment plate : Approx. 870 g {1.92 lbs} |
| Finish | Main body : Aluminum die cast, i-PRO white Outer fixing screws : Stainless steel / Dome section : Polycarbonate resin, Clear |

NOTES

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.

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

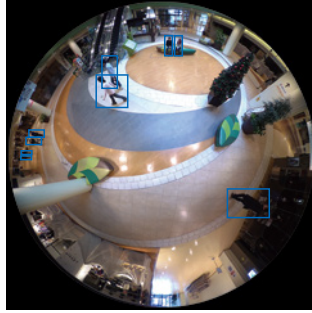
©i-PRO Co., Ltd All rights reserved / March 2023

Bundled License

AI-VMD/AI People Counting with the 360-degree fisheye camera

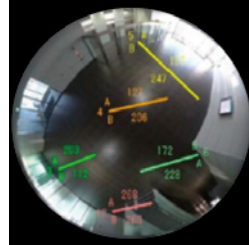
AI Video Motion Detection

- AI differentiates between vehicles and people, detecting and sending warning notifications when an intruder enters a specified area.
- Intruder detection:**
Issues an alarm when a moving object enters a specified area.
- Cross Line detection:**
Issues an alarm when an object moving in the specified direction crosses a specified threshold.
- Loitering detection:**
Issues an alarm when a moving object enters a specified area and stays there for a specified amount of time.

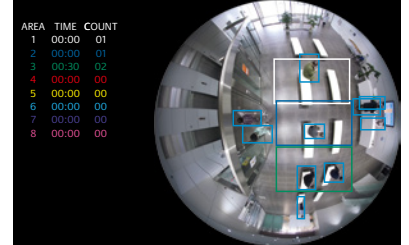


People Counting

- Cross Line Counting:**
Counts the number of people moving in a specified direction and cross a specified threshold.
- Area Counting (Queue Management):**
Counts the number of people in the set area.



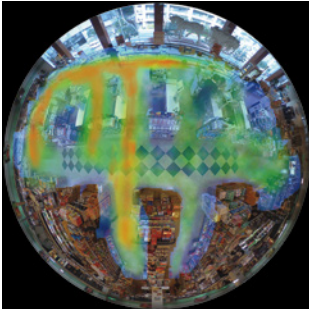
Cross Line Counting



Area Counting

Heat map

- Heat mapping provides statistical information about traffic flow and keeps counts for people passing through and loitering in the area.



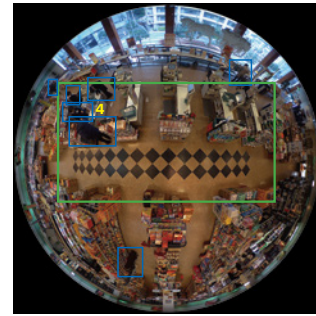
Passing



Loitering

Occupancy detection

- The network camera uses its AI engine to detect congestion, providing data that can be used to direct visitor traffic flow in advance or help staff work more efficiently.



AI Privacy Guard for 360-degree fisheye

AI Privacy Guard

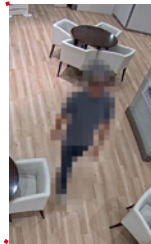
- AI can automatically mosaic faces and figures of people who are photographed to safeguard privacy and portrait rights.



Original image



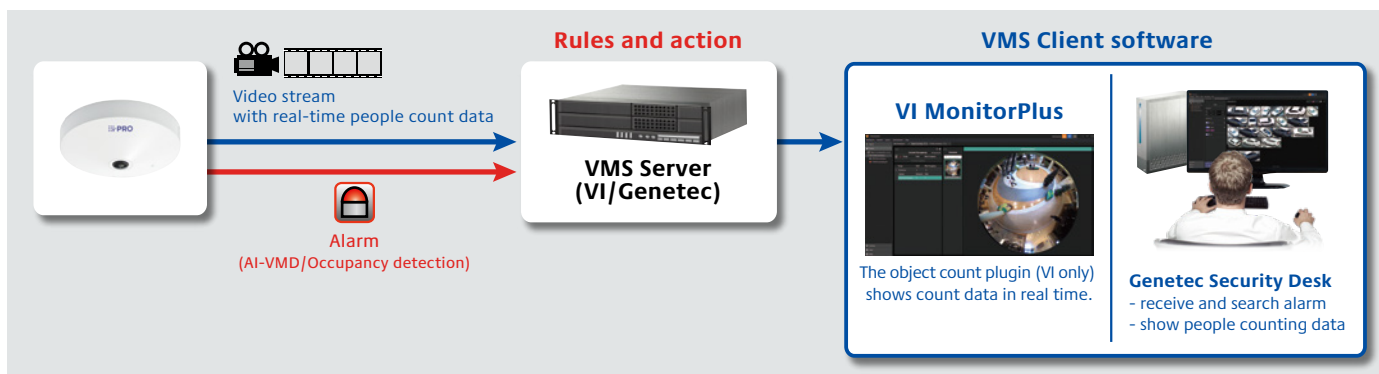
Processed image



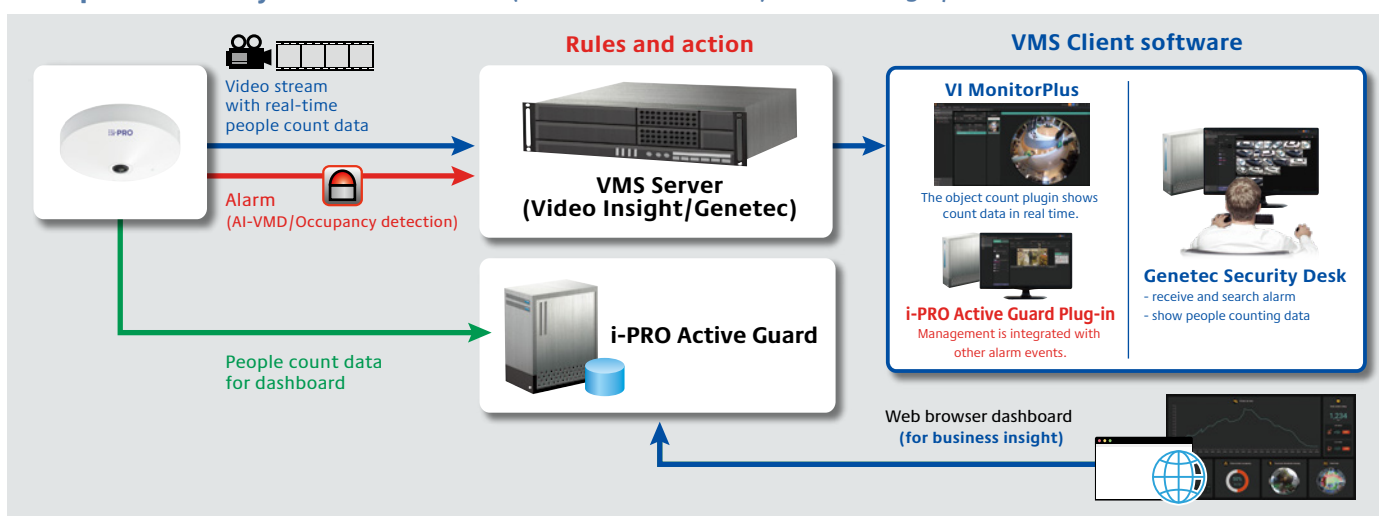
i-PRO Active Guard

- The i-PRO Active Guard stores the best images and metadata captured by i-PRO network cameras, then collates this data with the watch list registered in the client software and issues an alarm when a match is found. The server does not require expensive hardware because i-PRO network cameras handle the advanced processing. The server can even be installed on the same hardware as the VMS. The system comprises the i-PRO Active Guard, the AI application installed on i-PRO network cameras utilizing AI engines, and i-PRO Active Guard Plug-in software for the VMS client.

Example of basic system connection (without i-PRO Active Guard)

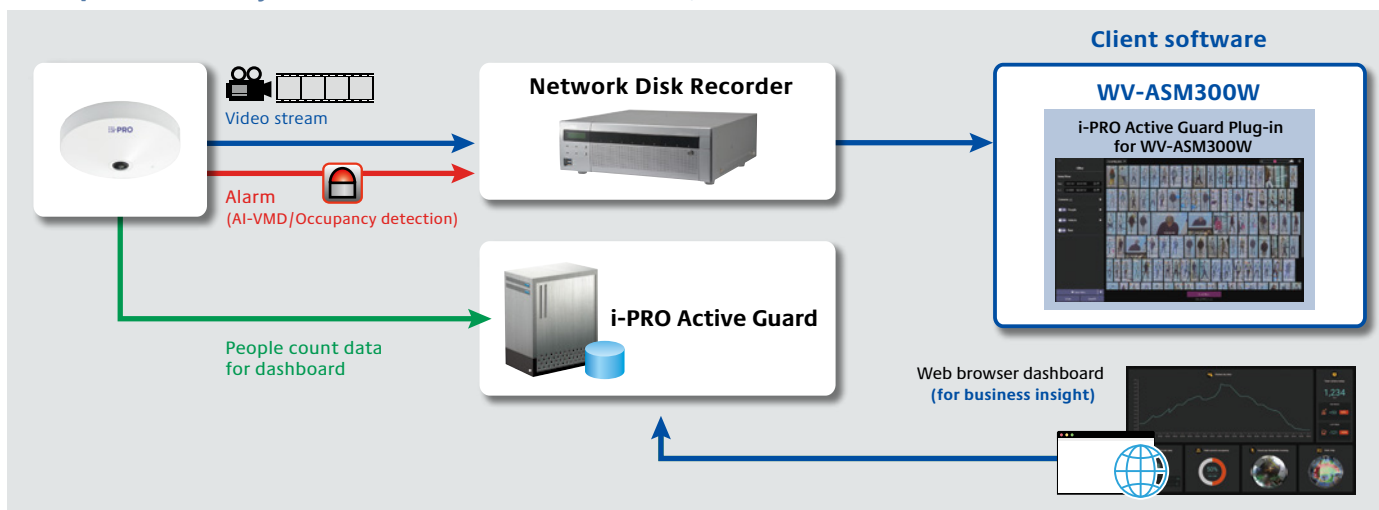


Example of basic system connection (with i-PRO Active Guard) for Video Insight/Genetec



*VMS Server and i-PRO Active Guard can be installed on the same server.

Example of basic system connection for WV-ASM300W/Network disk recorder



OPTIONAL ACCESSORIES

Select a compatible accessory

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



WV-QWL501-W
Mount Bracket



WV-QWL500-W
Mount Bracket



WV-QSR501-W
Mount Bracket



WV-QPL500-W
Mount Bracket



WV-QLR100-W
Light Rail Mount
Bracket



WV-QJB500-W
Mount Bracket



WV-QCN500-W
Mount Bracket



WV-QCL501-W
Mount Bracket



WV-QCL102-W
Universal Camera
Mount Bracket



WV-QCL101-W
Mount Bracket



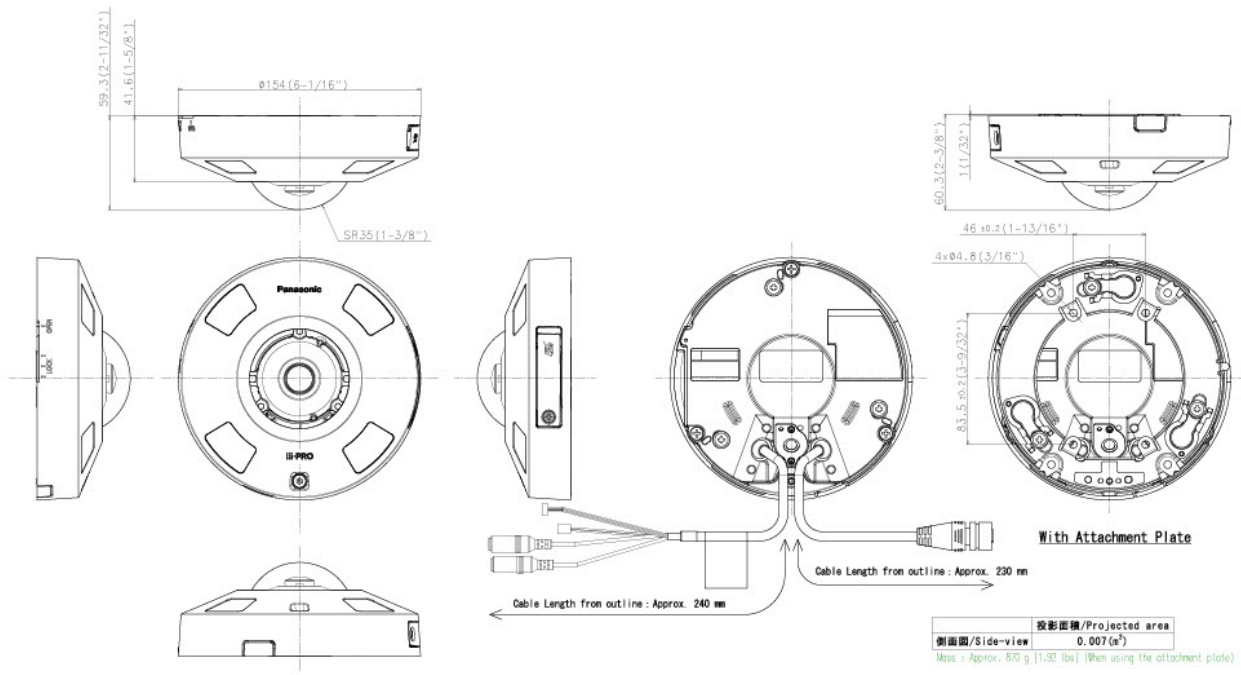
WV-QCL100-W
Mount Bracket



WV-Q105A
Mount Bracket



WV-PM500
Compact microphone
unit for surveillance
cameras



WV-S4556LM