WV-S4576LM

12MP 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.

- 12MP Sensor
- 2992x2992 pixel fisheye images up to 30fps
- Intelligent Auto (with AI Engine)
- Smart Coding (with AI Engine)
- ABF (Auto Back Focus)
- IP66, IK10, 50J compliant, Anti-Condensation System
- Built-in IR LED
- NDAA Compliant

SPECIFICATIONS

Camera

Image Sensor	Approx. 1/2 type 12MP CMOS image sensor
Minimum Illumination	Color : 0.3 lx BW : 0.04 lx (F1.9, Maximum shutter : Off (1/30 s), AGC : 11) BW : 0 lx (F1.9, Maximum shutter : Off (1/30 s), AGC : 11, when the IR LED is lit) Color : 0.02 lx BW : 0.003 lx (F1.9, Maximum shutter : max. 16/30s, AGC : 11)
Intelligent Auto	On / Off
Maximum Shutter	max. 16/30s to Max. 1/10000s
Super Dynamic	On / Off, The level can be set in the range of 0 to 31.
Dynamic Range	Max.84 dB (Wide Dynamic Range : 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	Gunshot, Yell, Vehicle horn, Glass break
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	1.4 mm {1/16 inches}
Maximum Aperture Ratio	1:1.9
Focus Range	0.5 m {19-11/16 inches} - ∞

Angular Field of View	Horizontal : 183° Vertical : 183°

DORI

Distance to the object in the center of the image	Detect (25 ppm / 8 ppf) : 29.9m / 98.2ft Observe (62.5 ppm / 19 ppf) : 12.0m / 39.3ft Recognize (125 ppm / 38 ppf) : 6.0m / 19.6ft Identify (250 ppm / 76 ppf) : 3.0m / 9.8ft
Coverage radius when mounted at a height of 3 m (10 ft)	Detect (25 ppm / 8 ppf) : 56.1m /184.2ft Observe (62.5 ppm / 19 ppf) : 20.6m / 67.6ft Recognize (125 ppm / 38 ppf) : 8.4m / 27.6ft Identify (250 ppm / 76 ppf) : 0.3m / 0.9ft

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>	•Fisheye mode (max. 30 fps/25 fps) 2992×2992 / 2192×2192 / 1280×1280 / 640×640 / 320×320 •Quad PTZ mode (max. 15 fps/12.5 fps), Single PTZ mode (max. 15 fps/12.5 fps) 2560×1920 / 2048×1536 / 1600×1200 / 1280×960 / 800×600 / VGA / QVGA
Resolution <Ceiling>	•Double Panorama mode (max. 15 fps/12.5 fps) 2560×1440 / 1920×1080 / 1280×720 / 640×360 / 320×180 •Fisheye + Double Panorama mode (max. 15 fps/12.5 fps) (Fisheye) 2992×2992 / 2192×2192 / 1280×1280 / 640×640 / 320×320 (Double Panorama) 1280×720 / 640×360 / 320×180 •Fisheye + Quad PTZ mode (max. 15 fps/12.5 fps) (Fisheye) 2992×2992 / 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. 15 fps/12.5 fps) (Quad PTZ) 2560×1920 / 2048×1536 / 1600×1200 / 1280×960 / 800×600 / VGA / QVGA (max. 5 fps)
Resolution <Wall>	•Panorama mode (max. 15 fps/12.5 fps) 2560×1440 / 1920×1080 / 1280×720 / 640×360 / 320×180 •Fisheye + Panorama mode (max. 15 fps/12.5 fps) (Fisheye) 2992×2992 / 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 accessnumber	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 AndroidTM 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

Monitor output (for adjustment)	VBS : 1.0 V [p-p] / 75 Ω, composite, ø3.5 mm mini jack An NTSC or PAL signal can be outputted from camera
Audio Input	[For microphone] 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 [For line] 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 IN1 (Alarm input 1/ Black & white input/ Auto time adjustment input) (x1) ALARM IN2 (Alarm input 2/ ALARM OUT) (x1) ALARM IN3 (Alarm input 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 : DC 12 V 1.1 A/Approx. 13.2 W , PoE (IEEE802.3af compliant, Alternative A) Device : DC 48 V 270 mA/Approx. 12.95 W (Class 0 device)
Ambient Operating Temperature	IR LED : On -40 ℃ to +50 ℃ (-40 °F to 122 °F) / Off -40 ℃ to +60 ℃ (-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 only : 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 only : Approx. 880 g {1.94 lbs}
Finish	Main body : Aluminum die cast, i-PRO white Outer fixing screws : Stainless steel (Corrosion-resistant treatment) 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

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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.
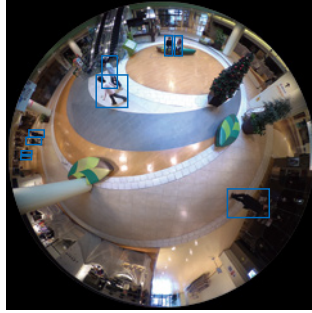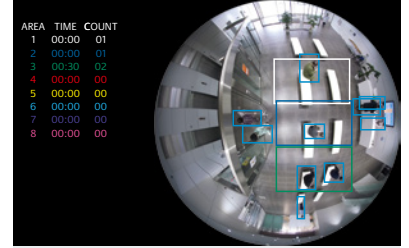

People Counting

• **Cross Line Counting:**
Counts the number of people moving in a specified direction and cross a specified threshold.

• **Area Counting(Queue Management):**
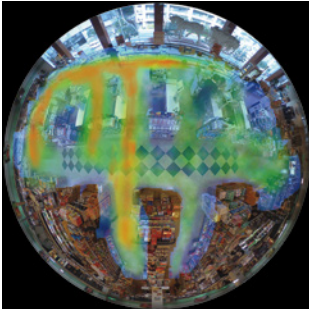Counts the number of people in the set area.
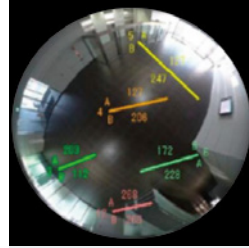
Cross Line Counting

Area Counting

Heat map

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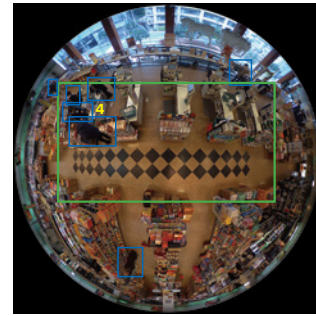

Passing

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.

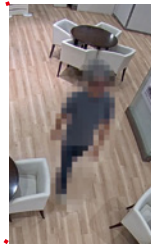# ■ AI Privacy Guard for 360-degree fisheye

AI Privacy Guard

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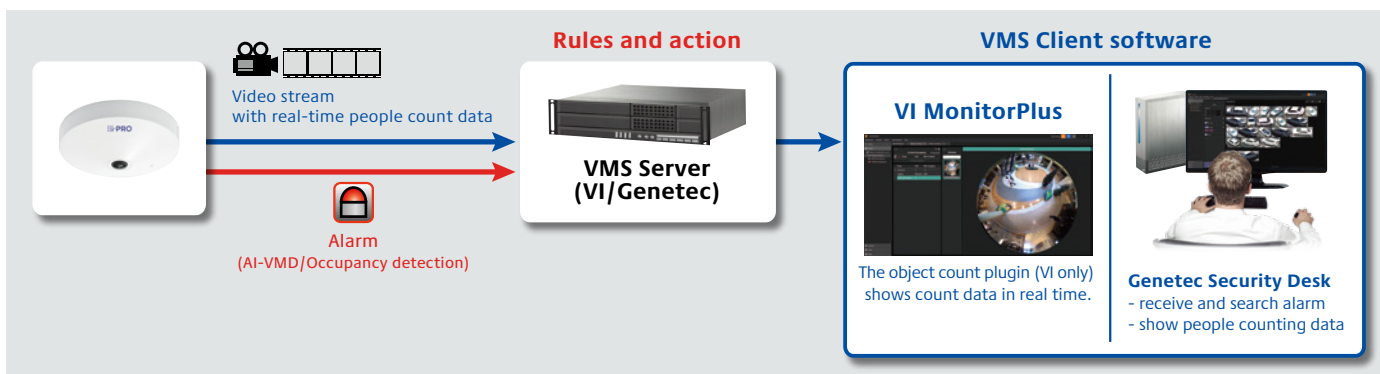

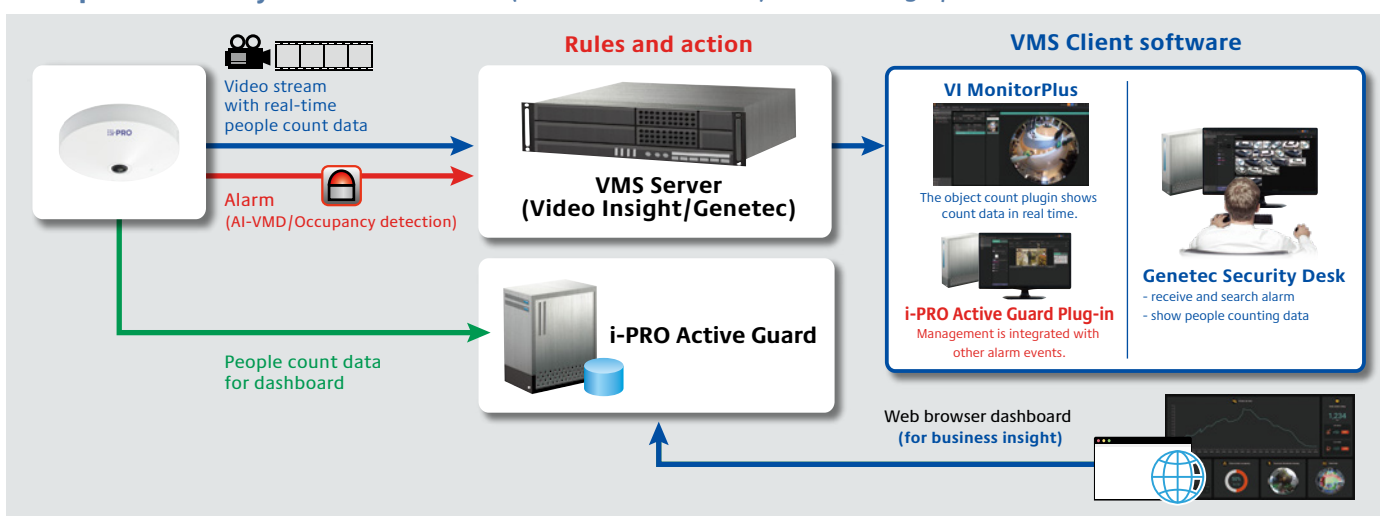**Original image**

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.

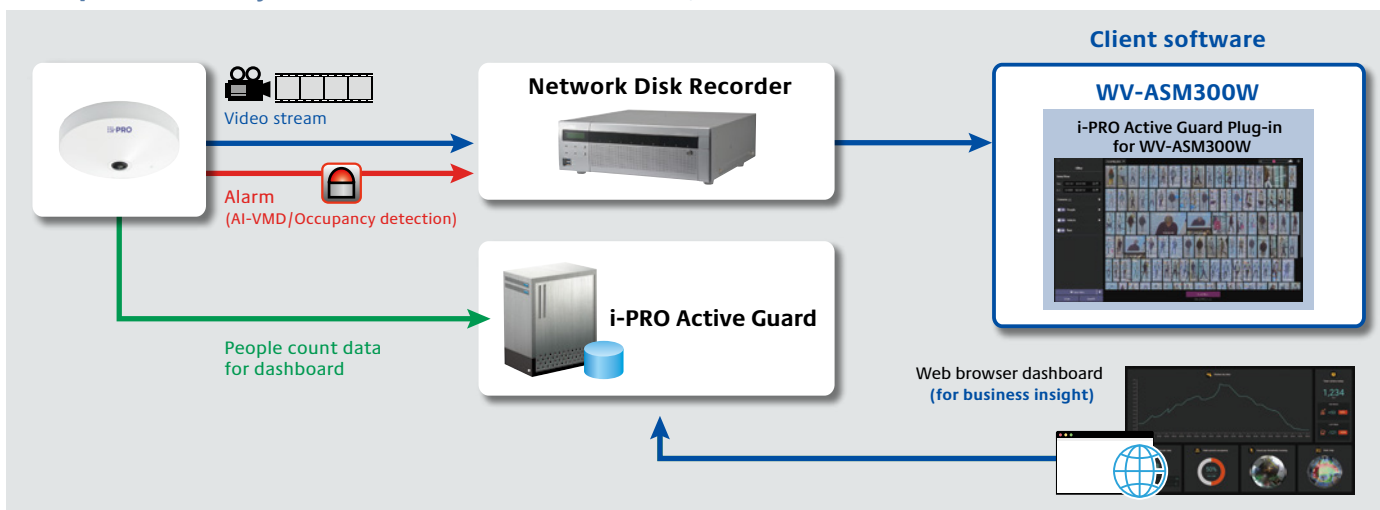## Example of basic system connection (without i-PRO Active Guard)

Video stream
with real-time people count data

Alarm
(AI-VMD/Occupancy detection)

Rules and action

**VMS Server
(VI/Genetec)**

VMS Client software

VI MonitorPlus

The object count plugin (VI only)
shows count data in real time.

Genetec Security Desk
- receive and search alarm
- show people counting data

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

Video stream
with real-time
people count data

Alarm
(AI-VMD/Occupancy detection)

People count data
for dashboard

Rules and action

**VMS Server
(Video Insight/Genetec)**

i-PRO Active Guard

VMS Client software

VI MonitorPlus

The object count plugin shows
count data in real time.

i-PRO Active Guard Plug-in
Management is integrated with
other alarm events.

Genetec Security Desk
- receive and search alarm
- show people counting data

Web browser dashboard
(for business insight)

*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

Video stream

Alarm
(AI-VMD/Occupancy detection)

People count data
for dashboard

Network Disk Recorder

i-PRO Active Guard

Client software

WV-ASM300W

i-PRO Active Guard Plug-in
for WV-ASM300W

Web browser dashboard
(for business insight)

OPTIONAL ACCESSORIES

Select a compatible accessory
[Accessory Selector (i-pro.com)](#)

WV-QWL500-W	WV-QJB500-W	WV-QSR501-W	WV-QWL501-W	WV-QPL500-W	WV-QCN500-W
Mount Bracket	Mount Bracket	Mount Bracket	Mount Bracket	Mount Bracket	Mount Bracket

WV-QCL501-W	WV-QCL100-W	WV-QCL101-W	WV-QCL102-W	WV-QLR100-W	WV-Q105A
Mount Bracket	Mount Bracket	Mount Bracket	Universal Camera Mount Bracket	Light Rail Mount Bracket	Mount Bracket

Φ154(6-1/16")

59.3(2-11/32")

41.6(1-5/8")

SR35(1-3/8")

60.3(2-3/8")

1(1/32")

46 ±0.2(1-13/16")

4×Φ4.8(3/16")

83.5 ±0.2(3-9/32")

Panasonic

i-PRO

OPEN

LOCK

With Attachment Plate

Cable Length from outline : Approx. 230 mm

Cable Length from outline : Approx. 240 mm
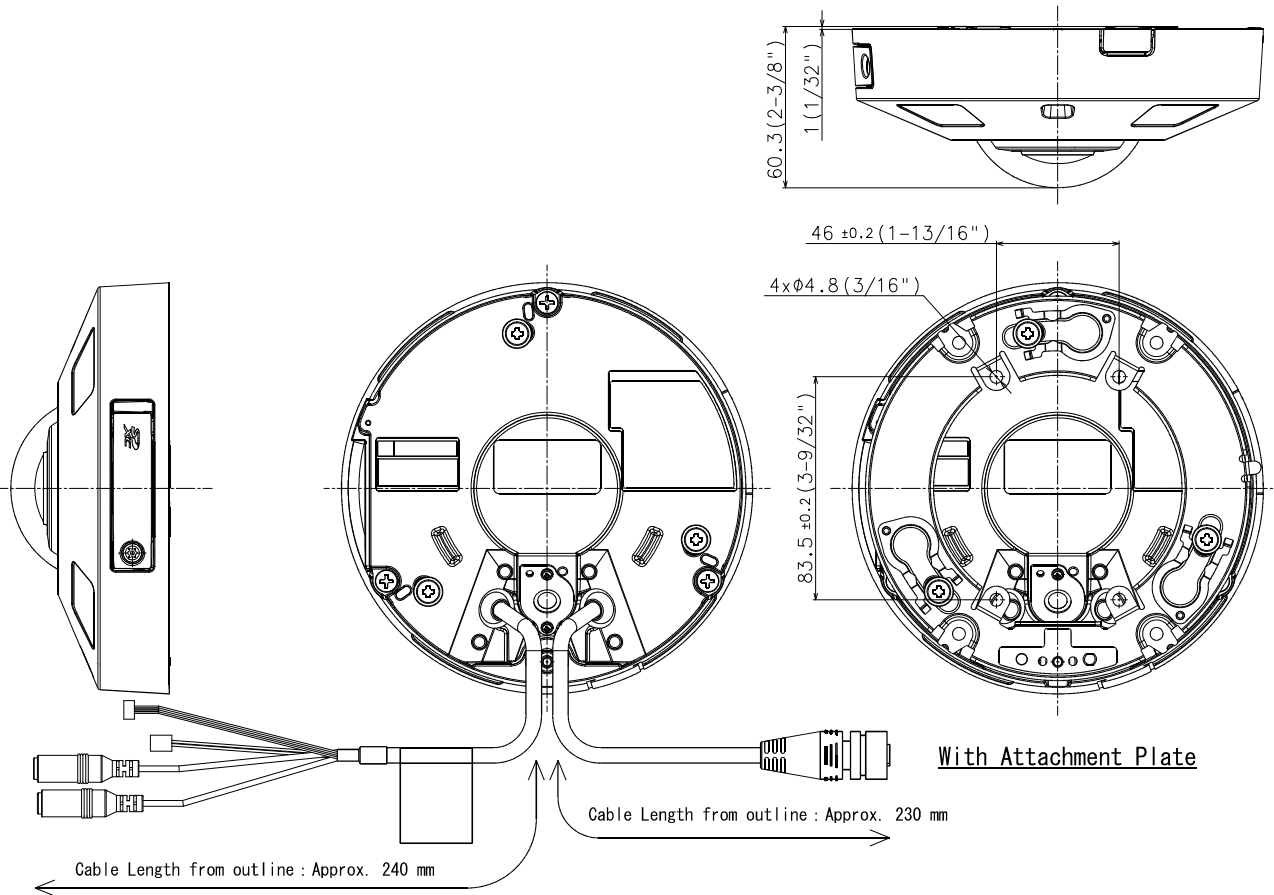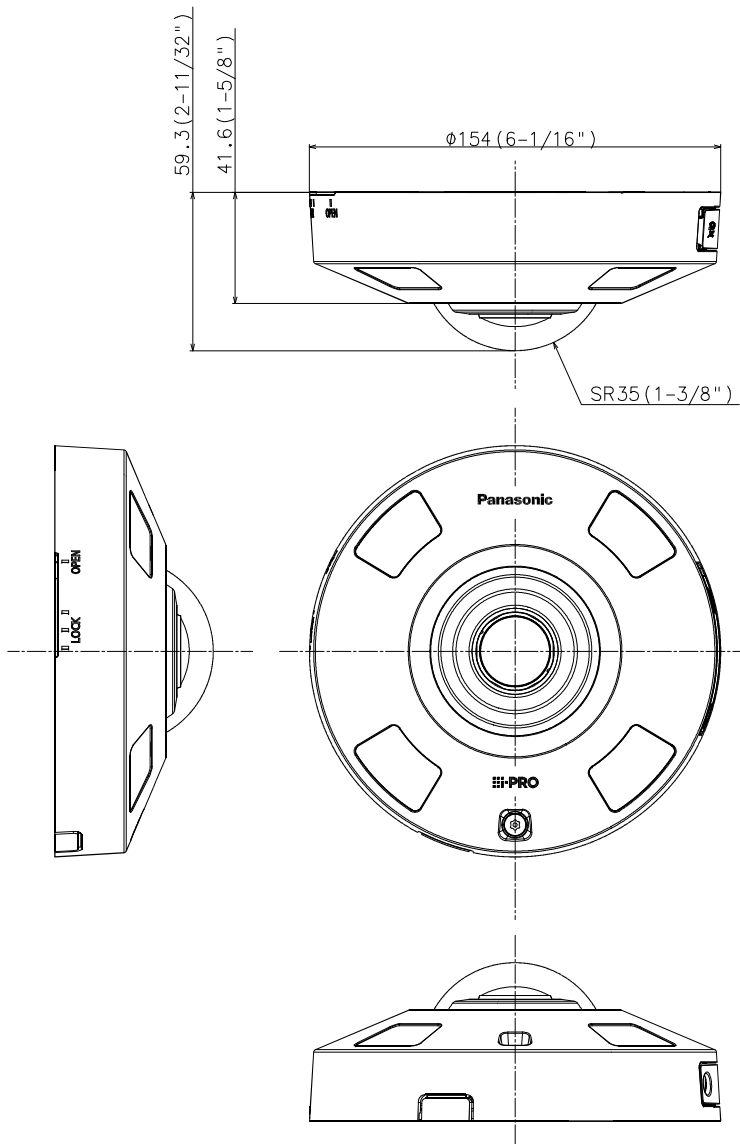
	投影面積/Projected area
側面図/Side-view	0.007(m²)

Mass : Approx. 880 g {1.94 lbs} (When using the attachment plate)

WV-S4576LM