Architectural and Engineering Specifications

GV- Fisheye IP Camera

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The document is written using industry standard formatting and language, and is designed for use by architects, consultants, and specifying engineers who are preparing bid specifications for security cameras, surveillance systems and access control systems.

The electronic version of these specifications may be copied into the appropriate sections of a complete bid specification by using the "cut and paste" method. They are written to highlight the features and specifications of GeoVision products. Section headings mention specific models only for clarity – these may be deleted after insertion into the complete specification.

Products covered in this document include:

- *Outdoor: GV-FER12203*

The Fisheye Rugged IP Camera is an outdoor camera designed with IK10+ vandal resistance and IP67 ingress protection. The camera provides 360° and 180° panorama view allowing monitoring for all angles of a location. With the equipped automatic IR-cut filter and IR LEDs, the camera provides a complete day and night surveillance solution. The camera is equipped with a USB port that can be connected wirelessly through a GV-WiFi Adapter (optional).
For more information on GeoVision products, please visit www.geovision.com.tw.

GV- Fisheye IP Camera

Hard Ceiling Mount

Wall Mount

Ground Mount

A. General Requirements

1. The camera shall be capable of producing a circular fisheye image that captures an extremely wide viewing angle. Using the Web interface or GeoVision software, the circular fisheye image shall be converted into a rectilinear projection that supports digital zoom and PTZ function without any mechanical moving parts.
2. The camera shall support auto pan function where the top-left PTZ view rotates automatically at the specified rotation speed.
3. The camera shall support object tracking function under Geo Fisheye: 360 degree mode. When motion is detected, the top-right PTZ view shall track the moving object, and the moving object shall be highlighted in the 360 degree view at the bottom.
4. Multiple users shall be able to access different angles of live view at the same time.
5. The camera shall be a fisheye network camera utilizing a progressive scan CMOS imager with the following image sensor types:

GV- Fisheye IP Camera	Image Sensor
GV-FER12203	1/1.7” progressive scan CMOS

6. The main stream shall utilize H.264 and MJPEG video compression methods with the maximum resolution and frame rate as below:

GV- Fisheye IP Camera	Max. Resolution & Frame Rate
GV-FER12203	4000 x 3000 at 15 fps (60/50 Hz)

7. The sub stream shall utilize H.264 and MJPEG video compression methods with the default resolution and frame rate as below:

GV- Fisheye IP Camera	Resolution & Frame Rate
GV-FER12203	640 x 480 at 15 fps

8. The camera shall be designed for outdoor environment.
9. Maximum number of streams supported for the camera over the network, using the H.264 codec is described as below.

GV- Fisheye IP Camera	Max. Number of Streams
GV-FER12203	8

When a camera is connected to IE browser or any other applications, it takes up 1 stream; when it is connected to GV-DVR / NVR, GV-VMS, it takes up 2 streams.

10. The camera shall provide administrator and guest level settings on the Web interface. The administrator account shall have full access to all functions, and the guest account shall have access to camera live video and network status information only.

B. Alarm and Notification Requirements

1. The camera shall be capable of motion detection.
2. A privacy mask function shall be provided to allow users to specify areas of the image to be blocked off on the camera view for privacy purpose.
3. The camera shall support tampering alarm such that an E-mail notification or an alarm shall be triggered when the camera is being tampered.
4. The camera shall support visual automation function such that the connected output devices can be triggered by clicking its image on the live view.
5. The camera shall be capable of triggering an output device or sending E-mail alert when recording errors occur and when the memory card is full.
6. The camera shall have E-mail and FTP ability for alert notification. When motion is detected, a captured still image will be sent by E-mail or to the FTP server.
7. The camera shall be capable of integration with video management software or a central monitoring station. The video or text alerts shall be sent upon alarm event.

C. Recording and Playback Requirements

1. The camera shall be capable of beginning recording according to a schedule, upon input trigger, and upon motion detection.
2. The camera shall be capable of storing recorded data on an inserted micro SDHC/SDXC/UHS-I memory card (Class 10), FTP server, GV-DVR / NVR, GV-Backup Center, GV-Recording Server, GV-VMS, GV-Backup Center, and GV-Recording Server.
3. Scheduled backup shall be supported when connected to a server installed with the GV-Backup Center program.
4. Pre-recording and post-recording functions shall be available.
5. Users shall be able to play back recorded data on a GV-DVR / NVR, GV-VMS, or over network.

6. Users shall be able to play back the circular source image from any view angle and zoom level.

D. Video Requirements

1. The camera shall support Smart Streaming function, with which the bitrates will be automatically reduced in static scenes, significantly maximizing bandwidth and lowering file size. It only works with compatible version of GV-DVR / NVR and GV-VMS.
2. The camera shall support both constant bitrate (CBR) and variable bitrate (VBR). For variable bitrate (VBR), the maximal bitrate shall be selectable to restrict the system from exceeding a specified bitrate.
3. The following white balance settings shall be selectable on the Web interface: auto, outdoor, florescent, tungsten, and manual. The manual white balance range shall be approximately 2800 - 8500 degrees Kelvin.
4. The camera shall support an automatic or manual shutter speed with a speed range of 1/30 - 1/16000 seconds.
5. The following image settings shall be adjustable from the Web interface: Brightness, Contrast, Saturation, Sharpness, Gamma, White Balance, Flicker-less, Image Orientation, Shutter Speed, D/N, Denoise, Low Lux Enhancement, Metering.
6. The camera shall support the aspect ratio of 4:3, and 20:19.

Main Stream	**4:3**	4000 x 3000 (Default)
	20:19	2896 x 2768
Sub Stream	**4:3**	640 x 480 (Default)
	20:19	640 x 608

7. The S/N ratio for the camera shall be as described below.

Models	**S/N Ratio**
GV-FER12203	52 dB

8. The camera shall support the function where its day-night mode can be triggered by an activated digital input.
9. The camera shall support the function where its day mode can be triggered by schedule.

E. Audio Requirements

1. The camera shall support audio codec G.711.
2. The camera shall be equipped with a built-in microphone.
3. The camera shall be equipped with a stereo phone jack (3.5 mm / 0.14”) for an external speaker.

F. Networking Requirements

1. Network interface shall be equipped with a 10/100/1000 Ethernet, RJ-45 connector as a network interface.
2. A built-in Web server shall be incorporated that allows users to view the camera view using Web browsers without the need for special viewer software.
3. The camera shall support the following network protocols: DHCP, DynDNS, FTP, HTTP, HTTPS, NTP, ONVIF (Profile S), PSIA, QoS (DSCP), RTSP, SMTP, SNMP, TCP, UDP, UPnP, 3GPP/ISMA
4. Users shall be able to configure port settings.
5. The camera shall be capable of setting IP filtering to restrict access to the camera.
6. QoS (DSCP) shall be supported to allow differentiated bandwidth control.

G. Lens Requirements

1. The camera shall be equipped with a lens of the lens type and focal length as below.

Models	Lens Type	Focal Length
GV-FER12203	Fixed lens	1.83 mm

2. The camera shall be shall be equipped with a removable IR-cut filter.
3. The maximum aperture of the camera shall be F/2.4.
4. The camera shall require the minimum illumination as described below.

Models	Minimum Illumination
GV-FER12203	0.1 lux in color mode 0.05 lux in B/W mode 0 lux with IR on

5. The camera shall have 6 IR LEDs that support a maximum IR distance of 30 m / 98.43 ft.

H. Mechanical Requirements

1. The camera body shall have a dimension of Ø 160.6 x 59.1 mm m (6.32” x 2.33”).
2. The camera shall be equipped with interface for 1 sensor input (dry contact) and 1 alarm output (200 mA, 5V DC).
3. The camera shall have a weight of 700 g (1.54 lb)
4. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
5. The camera shall support hard-ceiling mount, wall mount, and ground mount.
6. The camera shall have a USB slot for connecting a compatible WiFi adapter.

I. Power Requirements

1. Power shall be connected using the supplied power adapter or the Power over Ethernet (PoE).
2. The camera shall be capable of receiving power from 12V DC, 24V AC, and IEEE802.3at Power over Ethernet (PoE).
3. The maximum power consumption shall be 28 W.

J. Environmental Requirements

1. The operating temperature shall be within the range of -40°C - 50°C / -40°F - 122°F.
2. The humidity shall be within the range of 10% to 90% with no condensation.
3. The outdoor model shall comply with IP67 protection classification.
4. The metal casing of the camera shall have a vandal resistance of IK10+.

K. System Requirements

1. Supported operating systems shall include 64-bit Windows 7 / 8 / 8.1 / Server 2008 R2 / Server 2012 R2.
2. The camera’s Web interface shall be accessible through Web browsers including Microsoft Internet Explorer (version 7.0 or later), Google Chrome, Mozilla Firefox and Safari.

L. Language Requirements

1. The camera shall support 31 languages on the Web interface, including Arabic, Bulgarian, Czech, Danish, Dutch, English, Finnish, French, German, Greek, Hebrew, Hungarian, Indonesian, Italian, Japanese, Lithuanian, Norwegian, Persian, Polish, Portuguese, Romanian, Russian, Serbian, Simplified Chinese, Slovakian, Slovenian, Spanish, Swedish, Thai, Traditional Chinese and Turkish.

M. Applications

1. The camera shall support the following software for network storage:
   - Video surveillance and management software: GV-DVR / NVR, GV-VMS.
   - Backup and Recording software: GV-Backup Center, GV-Recording Server.
2. The camera shall support smart device access using GV-Eye mobile app. for live view display, remote playback, and fisheye dewarping. Fisheye Dewarp on GV-Eye mobile app. is an optional and a paid service.
3. The camera shall allow remote access from GV-Control Center, GV-Center V2 and GV-Vital Sign Monitor for central management.

N. Packing list shall include:

1. Fisheye Camera
2. Back Plate
3. Plate Screw x 3
4. Plastic Screw Anchor x 3
5. Torx Wrench
6. RJ-45 Connector
7. Data Cable
8. Terminal Block
9. Installation Sticker
10. Ruler
11. Silica Gel Bag x 2
12. Power Adapter
13. GV-IPCAM H.264 Software DVD
14. GV-NVR Software DVD
15. Warranty Card

O. Certifications and Approvals:

1. CE, FCC, RCM, LVD, RoHS compliant