Architectural and Engineering Specifications

GV- Fisheye IP Camera

Revision Date: 09/23/2020

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:
GV-EFER3700 / EFER3700-W

GV-EFER3700 / EFER3700-W is a 3 MP outdoor fisheye camera that allows you to monitor all angles of a location and it can be installed to the ceiling and the wall. Equipped with automatic IR-cut filter and IR LEDs, GV-EFER3700 / EFER3700-W is capable of day and night surveillance. The camera's distorted hemispherical image can be converted into a conventional rectilinear projection. Without installing any software, you can watch live view and utilize functions such as video recording, privacy mask, and alert notification through the Web interface. In addition, the camera seamlessly integrates with the GV-DVR / NVR / VMS, providing advanced monitoring and video management features.

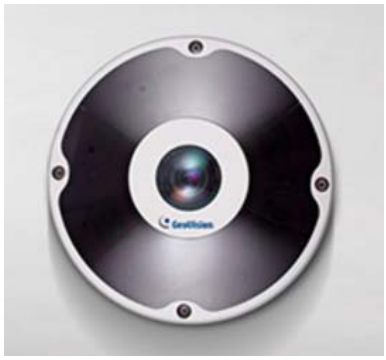
The camera support H.265 video codec to achieve better compression ratio while maintaining high picture quality at reduced network bandwidths. It is capable of providing a color live view not only in near darkness but also under contrasting light intensities with its super low lux CMOS image sensor and WDR pro.

GV-EFER3700-W can support wireless connection. With the WPS function, it can easily connect to the WiFi router.

For more information on GeoVision products, please visit www.geovision.com.tw.

GV- Fisheye IP Camera

Hard Ceiling Mount
(With IR LED ring)



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 a GV 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:

Models	Image Sensor
GV-EFER3700 / EFER3700-W	1/2.8” progressive scan super low lux CMOS

6. The main stream shall utilize H.265 and H.264 video compression methods with the maximum resolution and frame rate as below:

Models	Max. Resolution & Frame Rate
GV- EFER3700 / EFER3700-W	2048 x 1536 at 25 fps (50 HZ) 1440 x 1376 at 25 fps (50 HZ)
	2048 x 1536 at 30 fps (60 HZ) 1440 x 1376 at 30 fps (60 HZ)

7. The sub stream shall utilize H.265, H.264 and MJPEG video compression methods with a resolution up to 640 x 608 at a maximum frame rate of 30 fps.

8. The camera shall support up to eight (8) streams simultaneously over the network. When the camera is connected to IE browser, GV-DVR / NVR or any other application, it takes up one (1) stream. When it is connected to GV-VMS, it takes up two (2) streams. The maximum number of streams shall be based on the maximum resolution of the camera and H.265 codec.
9. 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 be capable sending E-mail alert when recording errors occur and when the memory card becomes full.
5. 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.
6. 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 and upon motion detection.
2. The camera shall be capable of storing recorded data on the inserted micro SD / SDHC / SDXC / UHS-I memory card, an FTP server, GV-DVR / NVR / 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 / 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 shall work with compatible version of GV-DVR / NVR / 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 have an automatic shutter with a speed range of 1/5 – 1/16000 seconds. Users shall be able to set a Slowest Shutter Speed for the camera.
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, backlight compensation, D/N sensitivity, WDR, defog, low lux enhancement, denoise and metering.
6. The camera shall support WDR Pro with WDR sensor to process scenes with strong backlight.
7. The camera shall require the following minimum illumination:

Models	Minimum Illumination
GV-EFER3700 / EFER3700-W	0.001 lux in color and 0.001 lux in B/W mode 0 lux with IR on

8. The camera shall support the two (2) aspect ratios: 4:3, and 20:19.

GV-EFER3700 / EFER3700-W	**Main Stream**	**4:3**	2048 x 1536 (Default)
		20:19	1440 x 1376, 1280 x 1200
	Sub Stream	**4:3**	640 x 480 (Default)
		20:19	640 x 608

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

Models	S/N Ratio
GV-EFER3700 / EFER3700-W	54 dB

E. Audio Requirements

1. The camera shall support audio codec G.711.
2. The camera shall be equipped with a stereo phone jack.
3. The camera shall support bi-directional audio transmission.

F. Networking Requirements

1. Network interface shall be via an Ethernet (10/100 Base-T), RJ-45 connector.
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), 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.
7. GV-EFER3700-W shall support Wireless connectivity with a built-in antenna.
8. GV-EFER3700-W shall support the IEEE802.11 b/g/n Wireless Standard.

9. GV-EFER3700-W shall support the following WiFi Security: WEP, WPA-PSK(TKIP), WPA-PSK(AES), WPA2-PSK(TKIP), WPA2-PSK(AES).
10. GV-EFER3700-W shall support the following WiFi receiver sensitivity:
    - -90 dBm: 1 Mbps
    - -85 dBm: 11 Mbps
    - -71 dBm: 54 Mbps
    - -65 dBm: 54 Mbps
11. GV-EFER3700-W shall support the WPS (WiFi Protected Setup) function.

G. Lens Requirements

1. The camera shall have fixed focus.
2. The camera shall be shall be equipped with a removable IR-cut filter.
3. The camera shall have the following aperture.

Models	Maximum Aperture
GV-EFER3700 / EFER3700-W	F/1.8

4. The camera shall have a fixed iris lens with a focal length of 1.24 mm.
5. The camera shall have 3 IR LEDs that support a maximum IR distance of 20 m / 65.61 ft. The IR LEDs shall be turned on in 0 lux.

H. Mechanical Requirements

1. The camera shall be equipped with interface for 1 sensor input (dry contact) and 1 alarm output (200 mA, 5V DC).
2. The camera shall have the dimension of 140.5 x 52.2 mm (5.5” x 2.05”).
3. The camera shall have the weight of 670 g (1.47 lb).
4. The camera shall have a M12-type lens mount with 0.5 mm pitch.
5. The camera shall have a built-in temperature detector to detect the chipset temperature inside the camera.
6. The camera shall have three mounting methods, on the wall, on the ground, and on the ceiling surface.

I. Power Requirements

1. The camera shall be capable of receiving power from the following power source:

Models	Power Source
GV-EFER3700	12V DC / IEEE802.3af Power over Ethernet (PoE)
GV-EFER3700-W	12V DC

2. The maximum power consumption for the camera shall be as follows:

Models	Max. Power Consumption
GV-EFER3700	10.5 W
GV-EFER3700-W	9.5 W

J. Environmental Requirements

1. The camera shall be able to tolerate between -20°C - 50°C (-4°F - 122°F) at startup and -30°C - 50°C (-22°F - 122°F) during operation.
2. The humidity shall be within the range of 10% to 90% with no condensation.
3. The camera shall comply with IP67 protection classification.
4. The camera shall comply with IK8 vandal resistance.

K. System Requirements

1. Supported operating systems shall include 64-bit Windows 7 / 8 / 8.1 and Windows Server 2008 R2 / 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 GV-DVR / NVR / VMS, GV-Backup Center, and GV-Recording Server as network storage.
2. The camera shall support smart device access using GV-Eye. GV-Eye shall support Fisheye Dewarp functions optionally.
3. The camera shall allow remote access from GV-Control Center, GV-Center V2 and GV-VSM for central management.

N. Packing list shall include:

1. H.265 Fisheye Camera
2. Torx Wrench
3. Screw x 3
4. Screw Anchor x 3
5. Silica Gel Bag x 2
6. Terminal Block (3-pin)
7. Installation Sticker
8. GV-IPCAM Software DVD
9. GV-Software DVD
10. Power Adaptor (only for GV-EFER3700-W)
11. Warranty Card

O. Certifications and Approvals:

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

All specifications are subject to change without notice.