GV-GFER6900   Cloud AI 6MP H.265 Super Low Lux WDR Pro IR Fisheye Rugged IP Camera

Introduction

GV-GFER6900 is a 6 MP outdoor fisheye camera that allows you to monitor all angles of a location and can be installed on the ceiling or the wall. The camera supports H.265 video codec to achieve a better compression ratio while maintaining high-quality images at reduced network bandwidths. The camera adheres to IP67 and IK10 standards and can be powered through PoE. Furthermore, the camera has the capability to conduct on-edge fisheye dewarping, eliminating the need to utilize recourses from the backend devices.

Empowered by deep learning algorithms, AI technology distinguishes humans and vehicles from other moving objects. When integrated with GeoVision Video Management Software (VMS), it supports AI perimeter protection, real-time alerts, events playback, and more. By connecting the camera to the cloud-based data center and video surveillance solution, GV-Cloud VMS, thousands of on-site videos, alarm devices, and AI events can be monitored and managed from a single platform.
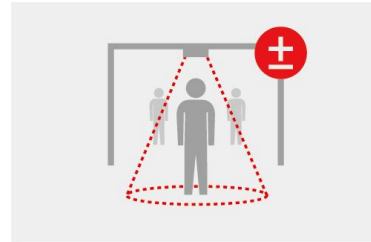
Key Features

- Direct-to-Cloud
- AI deep learning: AI Perimeter Protection & Classification (Human, Vehicle)
- 1/2.5" progressive scan CMOS sensor
- Min. illumination at 0.01 lux
- Triple streams from H.265, H.264, or MJPEG
- Up to 30 fps at 2160 x 2160
- Wide Dynamic Range Pro (WDR Pro)
- Day / Night functionality (with removable IR-cut filter)
- Intelligent IR
- IR distance up to 20 m (66 ft)
- Two-way audio capable
- Built-in microphone
- Built-in microSD card slot (SDHC/SDXC/UHS-I, Class 10) for local storage
- DC 12V / PoE (IEEE 802.3af)
- Ingress protection (IP67)
- Vandal resistance (IK10)

- 360° and 180° panorama view
- GV-Center V2 connection
- AI analytics (Line Crossing, Region Entrance, Region Exiting, Region Intrusion, Target Counting, Heat Map, Crowd Density)
- Defog
- 3D noise reduction
- Motion detection
- Virtual PTZ function
- Auto Pan function
- Text overlay
- Privacy mask
- 19 languages supported
- ONVIF (Profile G, S, T, M) conformant

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Deep Learning Function

AI Perimeter Protection	People Flow Counting
(Intrusion, Crossing Line, Entering Area, Leaving Area)	

Specifications

Camera		
Image Sensor		1/2.5" progressive scan CMOS
Picture Elements		2160 (H) x 2160 (V)
Minimum Illumination	Color	0.01 Lux (F2.0, AGC ON)
	B/W	0 Lux
	IR On	0.1 Lux
Shutter Speed		Auto / Manual (1/3 ~ 1/100000 sec)
White Balance		Auto / Manual
Gain Control		Automatic
S/N Ratio		50 dB
WDR Pro		Yes
Dynamic Range		120 dB

Lens		
Megapixel		6 MP
Day/Night		Yes (with removable IR-cut filter)
Lens Type		Fixed
Focal Length		1.65 mm
Maximum Aperture		F/2.0
Mount		M12
Image Format		1/2.5"
Horizontal FOV		180°
Operation	Focus	Fixed
	Zoom	Fixed
	Iris	Fixed
IR LED	Quantity	4 IR LEDs
	Max. IR Distance	20 m (66 ft)

DORI		Detect	Observe	Recognize	Identify
Lens	1.65 mm	33 m (108.2 ft)	13.1 m (42.9 ft)	6.6 m (21.6 ft)	3.3 m (10.8 ft)

Operation		
Video Compression		H.265, H.265+, H.264, H.264+, MJPEG
Video Streaming		Triple streams from H.265, H.264, or MJPEG
Frame Rate		Max. 30 fps (60 Hz) / 25 fps (50 Hz) at 3200 x 1800, 2160 x 2160, 1920 x 1080, 1440 x 1440, 1280 x 720, 1080 x 1080, 960 x 960, 720 x 720, 640 x 640, 640 x 360, 480 x 480, 360 x 360
		Max. 20 fps (50 & 60 Hz) at 2560 x 1440
		* The frame rate and the performance may vary depending on the number of connections and data bitrates (different scenes).
Maximum Throughput	AI Off	10 Mbps
	AI On	10 Mbps
Maximum Streams * When the total bitrate is within the maximum throughput		10 * By default, 2 connections are occupied whether connected to GV-Cloud VMS or not.

Video Analytics			Motion Detection
Smart Alarm			Motion Detection, SD Card Error, SD Card Full, IP Address Conflict, Cable Disconnection
Image Settings			Brightness, Contrast, Hue, Saturation, Sharpness, 3D Noise Reduction, Defog, BLC, Antiflicker, Smart IR, Image Orientation (Flip, Mirror, 0°, 180°)
Stream Mode & Supported Live Preview	1: Fisheye		Fisheye View
	2: Panoramic View		Panoramic View (Ceiling / Desktop: 180° x 2, Wall: 360°)
	3: Fisheye + Panoramic View + 3 PTZ		Fisheye View, Panoramic View (Ceiling / Desktop: 180° x 2, Wall: 360°), Fisheye View + PTZ x 3, Panoramic View (Ceiling / Desktop: 180° x 2, Wall: 360°) + PTZ x 3
	4: Fisheye + 4 PTZ		Fisheye View, PTZ x 4
	5: Fisheye + 4 PTZ Fusion		Fisheye View, 4 PTZ Fusion
Installation Method & Supported Live Preview	Ceiling Mount		Fisheye View, 180° Panoramic View x 2, Fisheye View + PTZ x 3, 180° Panoramic View x 2 + PTZ x 3, PTZ x 4, 4 PTZ Fusion
	Wall Mount		Fisheye View, 360° Panoramic View, Fisheye View + PTZ x 3, 360° Panoramic View + PTZ x 3, PTZ x 4, 4 PTZ Fusion
	Desktop Mount		Fisheye View, 180° Panoramic View x 2, Fisheye View + PTZ x 3, 180° Panoramic View x 2 + PTZ x 3, PTZ x 4, 4 PTZ Fusion
Audio Compression			G.711
Audio Support			Two-way audio (external speaker required)
Digital I/O	Input		1 input, dry contact, NO / NC
	Output		1 relay output (DC 30V, 1A / AC 125V, 0.3A)
Video Resolution			
Hardware (On-Edge) Dewarping	Main Stream (only in Edge IE mode)	Fisheye View	2160 x 2160 (default), 1440 x 1440, 1080 x 1080
		Panoramic View (Ceiling / Desktop: 180° x 2, Wall: 360°)	3200 × 1800 (default), 2560 x 1440, 1920 × 1080
		PTZ	1280 × 720 (default)
		4 PTZ Fusion	2560 × 1440 (default)
	Sub Stream	Fisheye View	960 × 960 (default), 720 x 720, 480 × 480
		Panoramic View (Ceiling / Desktop: 180° x 2, Wall: 360°)	1280 x 720 (default), 640 x 360
		PTZ	N/A
		4 PTZ Fusion	640 x 360 (default)
	Third Stream	Fisheye View	640 x 640 (default), 360 x 360
		Panoramic View (Ceiling / Desktop: 180° x 2, Wall: 360°)	1280 x 720 (default), 640 x 360
		PTZ	N/A
		4 PTZ Fusion	640 x 360 (default)
Network			
Interface			10/100 Ethernet
Protocol			802.1x, DDNS, DHCP, DNS, FTP, HTTP, HTTPS, IPv4, IPv6, NTP, ONVIF (Profile G, S, T, M), PPPoE, QoS, RTCP, RTMP, RTP, RTSP, SMTP, SNMP, TCP/IP, UPnP

Deep Learning Function	
AI Analytics	Only the following configurations of Stream Modes and Installation Methods enable smart detection events. Configuration 1 (Human detection only): Modes: 1, 3, 4, 5 Mounting: Ceiling Functions: Target Counting by Line, Line Crossing, Region Entrance, Region Exiting, Region Intrusion, Crowd Density, Heat Map Configuration 2 (Human and vehicle detection): Modes: 2, 3 Mounting: Wall or Desktop Functions: Target Counting by Line, Line Crossing, Region Entrance, Region Exiting, Region Intrusion, Crowd Density * A maximum of 1 smart detection event is allowed at a time to ensure comprehensive detection results and the optimized performance by the camera. * Once connected to GV-Cloud VMS / GV-Center V2, up to 1 smart detection event is supported.

Mechanical			
Connectors	Power	DC jack, PoE	
	Ethernet	RJ-45	
	RS-485	Yes, half-duplex	
	Audio	Built-in microphone	Yes
		External microphone required	Yes (audio jack, 3.5 mm or 0.14 in)
		Built-in speaker	No
		External speaker required	Yes (audio jack, 3.5 mm or 0.14 in)
		* Choose either the built-in or external microphone. * The Audio In port only supports microphones with a power supply.	
	Video Output	CVBS output (BNC connector x 1)	
	Digital I/O	4-pin terminal block pitch 3.5 mm (0.14 in)	
	Local Storage	microSD card slot (SDHC/SDXC/UHS-I, Class 10) * UHS-II card type is not supported.	

General	
Operating Temperature	-30°C ~ 60°C (-22°F ~ 140°F)
Humidity	0% ~ 95% (no condensation)
Power Source	DC 12V / PoE (IEEE 802.3af)
Max. Power Consumption	10 W
Dimension	Ø 130.6 x 46.3 mm (Ø 5.14 x 1.82 in)
Weight	516.2 g (1.14 lb)
Ingress Protection	IP67
Vandal Resistance	IK10
Certification	CE, FCC, RoHS compliant

Web Interface	
Installation Management	Web-based configuration
Maintenance	Firmware upgrade through Web Browser or GV-IP Device Utility
Access from Web Browser	Live View, Playback, Image Quality, Video Recording (only in Edge IE mode), Image Snapshot, Two-Way Audio (only in Edge IE mode), Digital Zoom, Bandwidth Control, Virtual PTZ, Auto Pan, Text Overlay, Image Masking, Intelligent Mark
Language	Chinese Traditional, Czech, Dutch, English, French, German, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Romanian, Russian, Spanish, Spanish (Latin America), Turkish

Applications	
Software Supported	GV-VMS (V17.4.8 / V18.3.5 or later, patch files required), GV-Control Center (V4.2.1 or later, patch files required), GV-Edge Recording Manager for Windows (V2.2.8 or later, patch files required), GV-Recording Server (V2.1.1 or later, patch files required), GV-Center V2 (V18.4.1 or later, patch files required), GV-Cloud VMS (V1.2.1 or later), GV-IP Device Utility (V9.0.2 or later)

Smart Device Access	GV-Eye for iOS (V3.1.0 or later), GV Eye for Android (V3.1.1 or later)
Live Viewing	Web Browser (Edge, IE mode in Edge, Chrome, Firefox, Safari), Mobile App

Note:
1. To avoid reflected glare by IR LED, keep a minimum distance of 1 m (3.28 ft) between the camera body and nearby walls.
2. To use GV-Cloud VMS, avoid connecting to other GV-Software at the same time.
3. To use GV-Cloud VMS, a microSD card must be installed. Industrial-grade microSD cards are recommended to avoid event recording failures.
4. Upon the initial connection of GV-Cloud Camera to GV-Cloud VMS, the Standard Plan will be provided for free for 180 days.
5. All specifications are subject to change without notice.

Packing List

1. GV-GFER6900
2. Waterproof Rubber Set
3. Screw Kit
4. Drill Template Paster
5. Download Guide

Accessories

Model No.	Name		Details
GV-Mount112	Pendant Mount		Dimensions: Ø 131.1 x 220.7 mm (Ø 5.16 x 8.69 in) Weight: 0.55 kg (1.21 lb)
GV-Mount211-11	Wall Mount Bracket		Dimensions: 194.7 x 165.6 x 131.1 mm (7.67 x 6.52 x 5.16 in) Weight: 0.57 kg (1.26 lb)
GV-Mount470 (must be used with Mount211-11)	Pole Mount Bracket		Dimensions: 163.3 x 54.5 x 215 mm (6.43 x 2.15 x 8.46 in) Weight: 1.10 kg (2.43 lb)
GV-Mount512	Junction Box		Dimensions: 131.0 x 156.9 x 33.0 mm (5.16 x 6.18 x 1.30 in) Weight: 0.24 kg (0.53 lb)
GV-PA191	PoE Adapter		GV-PA191 is a Power over Ethernet (PoE) adapter designed to provide power to the IP device through a single Ethernet cable.
GV-PA301	Gigabit PoE Adapter		GV-PA301 is a Gigabit Power over Ethernet (PoE) adapter.
GV-POE Switch			GV-POE Switch is designed to provide power along with network connection for IP devices. The GV-POE Switch is available in various models with different numbers and types of ports.
Power Adapter			Contact our sales representatives for the countries and areas supported.

Mounting Type

Pendant Mount	Wall Bracket Mount	Junction Box Mount
GV-Mount112	**GV-Mount211-11**	**GV-Mount512**

Wall Bracket Mount	Pole Bracket Mount
GV-Mount211-11	**GV-Mount470**

Dimensions