

Before operating this unit, please read this manual thoroughly and retain it for future reference.

## User's Manual

# **GKB Bullet Camera**

Outdoor Infrared Vari-Focal Bullet Camera  
Outdoor Infrared Bullet Camera  
Outdoor Bullet Camera

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## FCC Information



This equipment has been tested and found to comply with the limits of a class A digital device, pursuant to part 15 of the FCC rules and also guaranteed with CE approval. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the users' authority to operate the equipment.

## Warning

To prevent fire or shock hazard, do not expose the unit to moisture.

	<b>CAUTION</b>	
	<b>RISK OF ELECTRIC SHOCK DO NOT OPEN</b>	
<p>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNER.</p>		



This symbol alerts the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



This symbol alerts the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

- Handle the camera with care.

Be careful while handling or installing the camera. Do not drop it or subject it to strong shock or vibration to prevent any damages to it. Do not disassemble it or place it on an unstable base.

- Never face the camera toward the sun.

The camera's picture may be influenced when working in unusual brightness environment. Sun light may do influence on the picture quality or camera itself. Never aim the camera at the sun or other extremely bright objects whether it is in use or not.

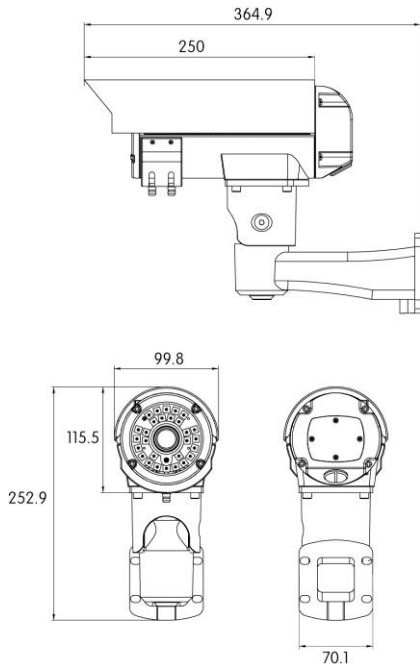
- Cleaning

Do not touch the surface of CCD sensor by hand directly. Using lens tissue or a cotton tipped applicator and ethanol to clean the CCD sensor and camera lens.



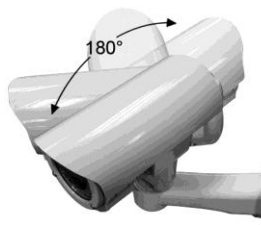
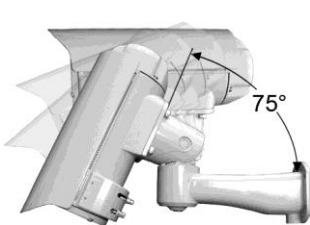
## Weatherproof High Resolution Bullet Camera with Infrared, Varifocal Lens and Hidden-cable Bracket

GKB 1702HB



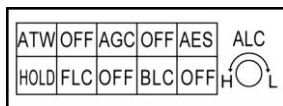
### Features

- Sony HQ-1 chipset. (580TVL high resolution)
- 28 LEDs. Radiant Distance at least 40 meters.
- Built-in Auto-Iris Vari-focal Lens.
- 180 ° rotated bracket – to enable flexible installation



- Hidden-cable bracket – to prevent external force of destruction such as for cutting.
- Separated protective glass- to avoid light reflection problem.
- Adjustable DIP Switch
- IP 66 Waterproof Resistances.

## DIP switch instruction



## Installation Instructions

1. Position the camera on the place you decided and use proper screws to fix the camera firmly in the place (e.g. wall). Tilt or rotate the camera for an ideal view
2. Connect AC (99~240V), AC24V /DC (12~24V) power line with power source and the BNC Video Output line with monitor or digital video recorder.
3. Use the external magnetic controller to adjust focus/ zoom. Additionally, if needed, adjust Dip Switches on the back of the camera.

(Note: it is highly not recommended to dismantle or take part the camera since this will cause possible damage on the camera)

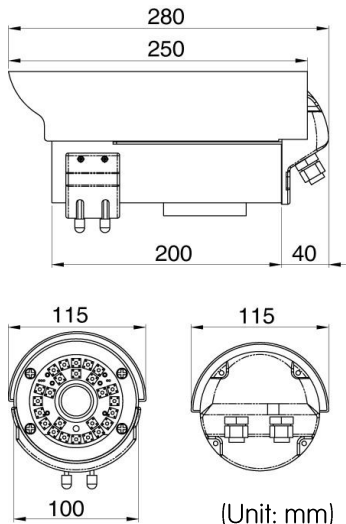
## Specification

Item NO.		GKB 1702HB
Description		1/3"Color High Resolution Day & Night HQ1 Camera
Pick up Element		Sony Super-Had CCD/ HQ1 DSP
Number of Pixels		<NTSC> 768 (H) × 494 (V) / <PAL> 752(H) × 582(V)
AES		ON - OFF
AGC		ON - OFF
ALC		Low - High
BLC		ON - OFF
FLC		ON - OFF
Line lock		ON
WB		ATW - HOLD
Sync. Mode		Internal Sync
Scanning System		2:1 Interlace
Resolution		580 TV Line
S/N Ratio		48db
Gamma		0.45
Minimum illumination		0.3 Lux, 50 IRE, F1.4; 0.01 Lux, 10 IRE, F1.4
Horizontal Sync. Frequency		<NTSC> 15.734 KHz / <PAL> 15.625 KHz
Video Output		1.0 Vp-p, 75 ohm
Power Source		DC/AC 12V~24V ; AC 99V~240V
Infrared LED	Quantity	28
	Peak Wavelength	850nm
	Radiant Distance	40 M
Power Consumption		12W
Operating Temperature		-10°C to +60°C
Ingress Protection		IP-66
Lens mount		3mm~9mm /9mm~22mm Auto Iris Vari-Focal Lens
Shutter Control		<NTSC> 1/60-1/100,000 sec; <PAL> 1/50-1/100,000 sec
Dimension		115 (Ø) mm × 298(L) mm
Net Weight		2.7kg
Ext. Model		W/ ICR, W/ On-Glass Heater



## Weatherproof Bullet Camera with Infrared and Varifocal Lens

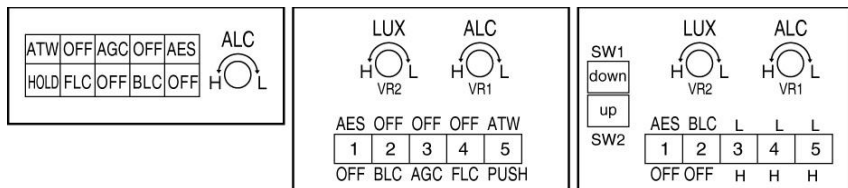
GKB 1702VF/ GKB 1703VX/ GKB 1703VF/ GKB 1704VF/ GKB 1709VF



### Features

- 1/3" Sony CCD, presents 580/550/420 TV Lines of Resolution.
- 28 LEDs. Radiant Distance at least 30 meters.
- Built-in Auto-Iris Vari-focal Lens.
- Separated protective glass- to avoid light reflection problem.(Optional)
- IP 66 Waterproof Resistances.

### Dip Switch Instruction



### Installation Instructions

Connect the camera's power and video as the following:

1. Connect AC (99~240V), AC24V /DC (12~24V) power line with power source.
2. Connect the BNC Video Output to the desired video line.  
\* It's not recommended to take apart the camera to ensure weatherproof function. No additional equipment is required while operating camera with low light.
3. GKB 17 series provide DIP switch on the back as follows, please tighten screws after DIP switch adjustment to ensure weatherproof function.



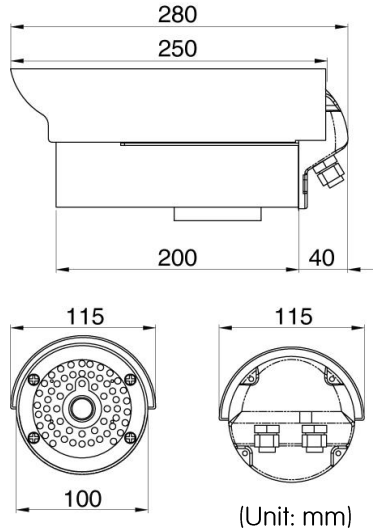
## Specification

Item No.	GKB 1702VF	GKB 1703VX	GKB 1703VF	GKB 1704VF	GKB 1709VF
Description	1/3" Color High Resolution HQ1 Weatherproof Vari-Focal IR Camera	1/3" Color High Resolution Weatherproof Vari-Focal IR Camera		1/3" Color Weatherproof Vari-Focal IR Camera	
Pick up Element	Sony CCD+HQ1 DSP	Sony CCD			
Number of Pixels	<NTSC>768(H) x 494(V) <PAL>752(H) x 582(V)			<NTSC>510(H) x 492(V) <PAL>512(H) x 582(V)	
Back Light Compensation	ON-OFF				
Line Lock	ON				-
Auto Electronics Shutter	ON-OFF				
AGC	ON-OFF				
ATW	ON-OFF				
Sync. Mode	Internal Sync.				
Scanning System	2:1 Interlace				
Resolution	580 TV Lines	550 TV Lines		420 TV Lines	
S/N Ratio	More than 48dB				
Gamma	0.45				
Minimum illumination	0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4 (0 Lux with IR)				
Infrared LED	Quantity	28			
	Peak Wavelength	850nm			
	Radiant Distance	25-30 meters			
Horizontal Sync. Frequency	<NTSC> 15.734 KHz <PAL> 15.625 KHz				
Video Output	1.0Vp-p, 75 ohm				
Power Source	AC 24V/DC 12~24V; AC 99V~240V (Switching Power)				
Power Consumption	12W				
Operating Temperature	-10°C to + 60°C				
Waterproofing Criterion	IP 66				
Lens Mount	3.0mm~9.0mm/ 9.0mm~22.0mm Auto Iris Vari-Focal Lens				
Shutter Control	<NTSC>1/60~1/100,000 sc. <PAL>1/50~1/110,000 SEC.				
Dimensions	280(L) x 115(Ø)mm				
Net Weight	1.6 kg				
Ext. Model	W/ On-Glass Heater, Heater, ICR, Separated Protective Glass				



## Weatherproof Bullet Camera with Infrared and Fixed Lens

GKB 1703EX/ GKB 1703/ GKB 1708/ GKB 1704/ GKB 1709



### Features

- 1/3" Sony CCD, presents 550/420 TV Lines of Resolution.
- 64 LEDs. Radiant Distance at least 25 meters.
- Built-in Fixed Lens.
- IP 66 Waterproof Resistances.

### Installation Instructions

Connect the camera's power and video as the following:

1. Connect AC (99~240V), AC24V /DC (12~24V) power line with power source.
2. Connect the BNC Video Output to the desired video line.

\* It's not recommended to take apart the camera to ensure weatherproof function. No additional equipment is required while operating camera with low light.



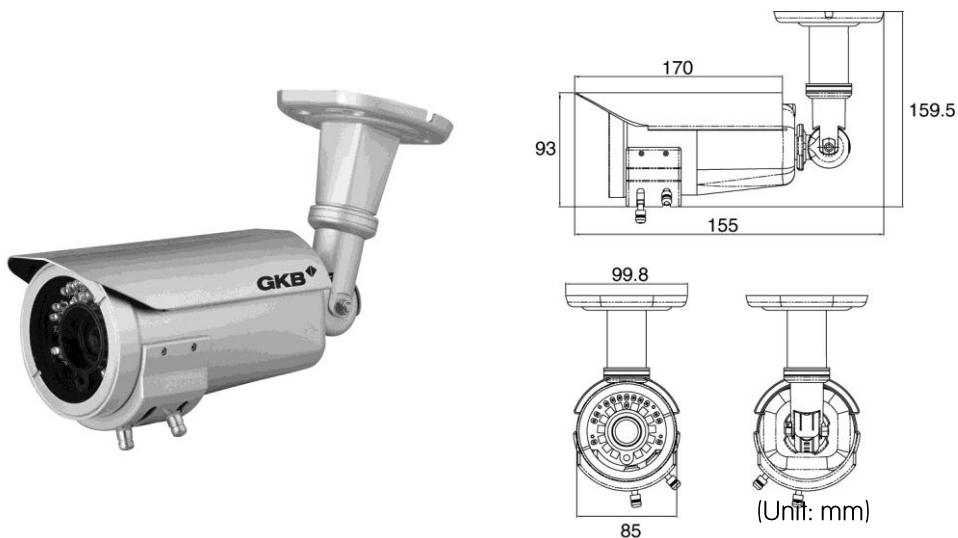
## Specification

Item No.	GKB 1703EX	GKB 1703	GKB 1708	GKB 1704	GKB 1709
Description	1/3" Color High Resolution Weatherproof IR Camera			1/3" Color Weatherproof IR Camera	
Pick up Element	Sony CCD				
Number of Pixels	<NTSC>768(H) x494(V) <PAL>752(H) x 582(V)			<NTSC>510(H) x 492(V) <PAL>512(H) x 582(V)	
Line Lock	ON		-	ON	-
AES	ON				
AGC	ON				
ATW	ON				
Sync. Mode	Internal Sync.				
Scanning System	2:1 Interlace				
Resolution	550 TV Lines			420 TV Lines	
S/N Ratio	More than 48dB				
Gamma	0.45				
Minimum illumination	0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4 (0 Lux with IR)				
Infrared LED	Quantity	64			
	Peak Wavelength	850nm			
	Radiant Distance	25 meters (at least)			
Horizontal Sync. Frequency	<NTSC> 15.734 KHz <PAL> 15.625 KHz				
Video Output	1.0Vp-p, 75 ohm				
Power Source	AC 24V/DC 12~24V; AC 99V~240V(Switching Power)				
Power Consumption	12W				
Operating Temperature	-10°C to + 60°C				
Waterproofing Criterion	IP 66				
Lens Mount	6.0mmBoard Lens (Standard) 8.0/ 12.0mm Board Lens (Optional)				
Shutter Control	<NTSC>1/6.0~1/100,000 sc. / <PAL>1/50~1/110,000 SEC.				
Dimensions	280(L) x 115(Ø)mm				
Net Weight	1.6 kg				
Ext. Model	W/ Heater, Separated Protective Glass				



## Weatherproof Bullet Camera with Infrared and Hidden-cable Bracket

GK 2502/ GK 2503EX / GKB 2503/ GKB 2504/ GKB 2509



### Feature

- 1/3" Sony CCD, presents 580/550/420 TV Lines of Resolution.
- 28 LEDs. Radiant Distance at least 35 meters.
- Built-in Auto-Iris Vari-focal Lens.
- Focus of Lens is adjusted by Outer Controller.
- Excellent Color Images During the Day and Excellent Quality Black & White Images at Night.
- IP 66 Waterproof Resistances.
- Hidden-cable Bracket included.

### Installation Instructions

Connect the camera's power and video as the following:

1. Connect AC (99~240V), AC24V /DC (12~24V) power line with power source.
2. Connect the BNC Video Output to the desired video line.

\* It's not recommended to take apart the camera unless the lens has to be adjusted. No additional equipment is required while operating camera with low light.

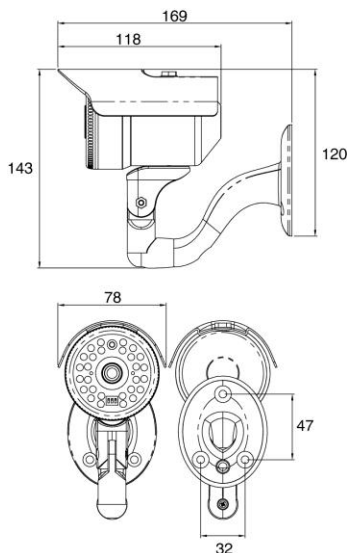
## Specification

Item No.	GK 2502	GK 2503EX	GKB 2503	GKB 2504	GKB 2509
Description	1/3" Color High Resolution Vari-Focal IR Camera			1/3" Color Weatherproof Vari-Focal IR Camera	
Pick up Element	Sony CCD + HQ1 DSP	Sony CCD			
Number of Pixels	<NTSC>768(H) x 494(V) <PAL>752(H) x 582(V)			<NTSC>510(H) x 492(V) <PAL>512(H) x 582(V)	
Line Lock	ON				-
AES	ON				
AGC	ON				
ATW	ON				
Sync. Mode	Internal Sync.				
Scanning System	2:1 Interlace				
Resolution	580 TV Lines	550 TV Lines		420 TV Lines	
S/N Ratio	More than 48dB				
Gamma	0.45				
Minimum illumination	0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4 (0 Lux with IR)				
Infrared LED	Quantity	28			
	Peak Wavelength	850nm			
	Radiant Distance	35 meters			
Horizontal Sync. Frequency	<NTSC> 15.734 KHz <PAL> 15.625 KHz				
Video Output	1.0Vp-p, 75 ohm				
Power Source	AC 24V/DC 12~24V				
Power Consumption	7W				
Operating Temperature	-10°C to + 60°C				
Waterproofing Criterion	IP 66				
Lens Amount	3.0mm~9.0mm/ 9.0mm~22.0mm F1.6 Auto Iris Vari-Focal Lens (DC Drive)				
Shutter Control	<NTSC>1/6.0~1/100,000 sc. <PAL>1/50~1/110,000 SEC.				
Dimension	155(L) x 85(Ø)mm				
Net Weight	0.9 kg				



## Weatherproof Analog Camera with Infrared and Fixed Lens

GKB 5008 / GKB 5009



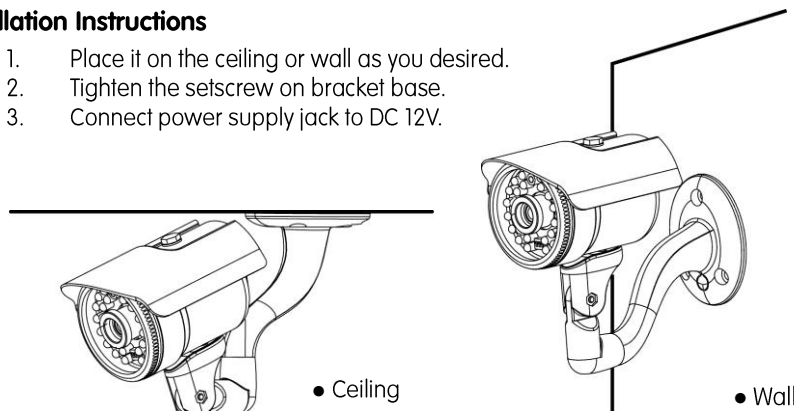
Bracket is Licensed by Hwan Ming Enterprise Co., Ltd

### Feature

- 1/3" Sony CCD, presents 550/420 TV Lines of Resolution.
- 28 LEDs. Radiant Distance at least 20 meters.
- Built-in Fixed Lens.
- Separated protecting glasses -  
Prevent image gone blur from dust by using two glasses at IR and Lens; thus, provide the greater image clarity
- Excellent Color Images During the Day and Excellent Quality Black & White Images at Night.
- IP 66 Waterproof Resistances.
- Ceiling and wall mountable 360° Bracket included.

### Installation Instructions

1. Place it on the ceiling or wall as you desired.
2. Tighten the setscrew on bracket base.
3. Connect power supply jack to DC 12V.



● Ceiling

● Wall

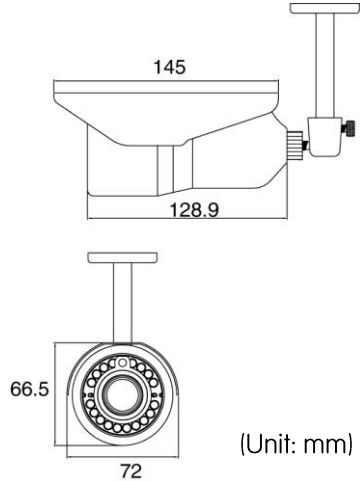
## Specification

Item No.	GKB 5008	GKB 5009
Description	1/3" Color High Resolution Weatherproof Infrared Camera	1/3" Color Weatherproof Infrared Camera
Pick up Element	Sony CCD	
Number of Pixels	<NTSC> 768 (H) × 494 (V) <PAL> 752(H) × 582(V)	<NTSC> 510 (H) × 492 (V) <PAL> 512(H) × 582(V)
AES	ON	
AGC	ON-OFF	
ATW	ON	
BLC	ON-OFF	
FLC	ON-OFF	
Sync. Mode	Internal Sync.	
Scanning System	2:1 Interlace	
Resolution	550TV Lines	420 TV Lines
S/N Ratio	More than 48dB	
Gamma	0.45	
Minimum illumination	0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4 (0 Lux with IR)	
Horizontal Sync. Frequency	<NTSC> 15.734 KHz / <PAL> 15.625 KHz	
Video Output	1.0 Vp-p, 75 ohm	
Power Source	DC 12V	
Infrared LED	Quantity	28
	Peak Wavelength	850nm
	Radiant Distance	20meters
	IR Lux control	5 Lux IR ON
Power Consumption	3.6W	4.2W
Operating Temperature	-10°C to +60°C	
Ingress Protection	IP66	
Lens Mount	6.0mm Board Lens (Standard) 4.0mm/8.0mm/12.0mm Board Lens (Optional)	
Shutter Control	<NTSC> 1/60-1/100,000 sec. / <PAL> 1/50-1/100,000 sec	
Dimensions	78 (Ø) × 118(L) × 72(H) mm	
Net Weight	0.30kg	



## Weatherproof Bullet Camera with Infrared and Varifocal Lens

GKB 2209VF



### Feature

- 1/3" Sony CCD, presents 420 TV Lines of Resolution.
- 18 LEDs. Radiant Distance at least 15 meters.
- Built-in Auto-Iris Vari-focal Lens.
- Excellent Color Images During the Day and Excellent Quality Black & White Images at Night.
- IP 66 Waterproof Resistances.
- Bracket included.

### Installation Instructions

Connect the camera's power and video as the following:

1. Connect DC 12V power line with power source.
2. Connect the BNC Video Output to the desired video line.
3. Open the front case to adjust the lens focus and zoom in/out; once the adjustment has done, make sure the front case is tightened.

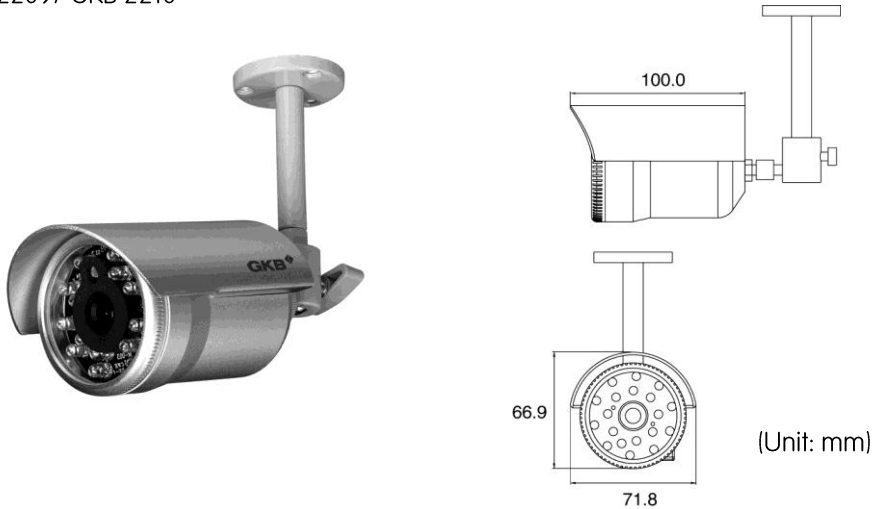
\* It's not recommended to take apart the camera unless the lens has to be adjusted. No additional equipment is required while operating camera with low light.

## Specification

Item No.		GKB 2209VF
Description		1/3" Color Vari-Focal Weatherproof Infrared Camera
Pick up Element		Sony CCD
Number of Pixels		<NTSC>510(H) x 492(V) / <PAL>512(H) x 582(V)
Back Light Compensation		OFF
Auto Electronics Shutter		ON
AGC		ON
ATW		ON
Sync. Mode		Internal Sync.
Scanning System		2:1 Interlace
Resolution		420 TV Lines
S/N Ratio		More than 48dB
Gamma		0.45
Minimum illumination		0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4 (0 Lux with IR)
Infrared LED	Quantity	18
	Radiant Distance	15 meters
Horizontal Sync. Frequency		<NTSC> 15.734 KHz <PAL> 15.625 KHz
Video Output		1.0Vp-p, 75 ohm
Power Source		DC 12V
Power Consumption		3.6W
Operating Temperature		-10°C to + 60°C
Waterproofing Criterion		IP 66
Lens Amount		4.0~8.0mm/ 9.0~22.0mm Manual Iris Vari-Focal Lens
Shutter Control		<NTSC>1/6.0~1/100,000 sec. <PAL>1/50~1/110,000 sec.
Dimension		65(Ø) x 135(L)mm
Net Weight		0.5 kg

## Weatherproof Analog Camera with Infrared and Fixed Lens

GKB 2209/ GKB 2210



### Feature

- 1/3" or 1/4" Sony CCD, presents 420 TV Lines of Resolution.
- 21 LEDs. Radiant Distance at least 15 meters.
- Built-in Fixed Lens.
- Excellent Color Images During the Day and Excellent Quality Black & White Images at Night.
- IP 66 Waterproof Resistances.
- Bracket included.

### Installation Instructions

Connect the camera's power and video as the following:

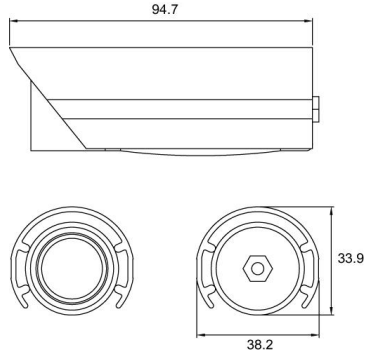
1. Connect DC 12V power line with power source.
  2. Connect the BNC Video Output to the desired video line.
- \* It's not recommended to take apart the camera unless the lens has to be adjusted. No additional equipment is required while operating camera with low light.

## Specification

Item No.	GKB 2209	GKB 2210
Description	1/3" Color Weatherproof Infrared Camera	1/4" Color Weatherproof Infrared Camera
Pick up Element	Sony CCD	
Number of Pixels	<NTSC>510(H) x 492(V) / <PAL>512(H) x 582(V)	
Back Light Compensation	OFF	
Auto Electronics Shutter	ON	
AGC	ON	
ATW	ON	
Sync. Mode	Internal Sync.	
Scanning System	2:1 Interlace	
Resolution	420 TV Lines	
S/N Ratio	More than 48dB	
Gamma	0.45	
Minimum illumination	0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4 (0 Lux with IR)	
Infrared LED	Quantity	21
	Radiant Distance	10 meters
Horizontal Sync. Frequency	<NTSC> 15.734 KHz <PAL> 15.625 KHz	
Video Output	1.0Vp-p, 75 ohm	
Power Source	DC 12V	
Power Consumption	3.6W	
Operating Temperature	-10°C to + 60°C	
Waterproofing Criterion	IP 66	
Lens Amount	4.0 mm Board Lens (Standard) 6.0/ 8.0 mm Board Lens (Optional)	
Shutter Control	<NTSC>1/6.0~1/100,000 sec. <PAL>1/50~1/110,000 sec.	
Dimension	50(Ø) x 74(L)mm	
Net Weight	0.4 kg	

**Weatherproof Bullet Camera with Fixed Lens and Bracket**

GKB 2115/ GKB 2110

**Feature**

(Unit: mm)

- 1/3" Sharp CCD or 1/4"Sony CCD, presents 420 TV Lines of Resolution.
- Built-in 3.6mm Fixed Lens.
- IP 66 Waterproof Resistances.
- Bracket included.

**Installation Instructions**

Connect the camera's power and video as the following:

1. Connect DC 12V power line with power source.
2. Connect the BNC Video Output to the desired video line.

\* It's not recommended to take apart the camera unless the lens has to be adjusted. No additional equipment is required while operating camera with low light.

## Specification

Item No.	GKB 2115	GKB 2110
Description	1/3" Color Weatherproof Bullet Camera	1/4" Color Weatherproof Bullet Camera
Pick up Element	Sharp CCD	Sony CCD
Number of Pixels	< NTSC > 510(H)×492(V) < PAL > 512(H)×582(V)	
AES	ON	
ATW	ON	
AGC	ON	
BLC	-	ON
Sync. Mode	Internal Sync.	
Scanning System	2:1 Interlace	
Resolution	420 TV Lines	
S/N Ratio	More than 48 dB	
Gamma Characteristic	0.45	
Minimum illumination	0.3 Lux, 50 IRE, F1.4 0.01 Lux, 10 IRE, F1.4	
Horizontal Sync. Frequency	< NTSC > 15.734 KHz < PAL > 15.625KHz	
Vertical Sync. Frequency	60Hz (50Hz)	
Video Output	1.0Vp-p, 75 ohm	
Power Source	DC 12V	
Power Consumption	1.2W	
Operating Temperature	-10°C to +60°C	
Lens Amount	3.6mm Board Lens	
Shutter Control	< NTSC > 1/60-1/100,000 sec. < PAL > 1/50-1/100,000 sec.	
Dimension	38.2(Ø)× 94.77(L)mm	
Net Weight	0.2kg	
Extension Model	w/ D/N filter	



For further information,  
please visit us at  
**[www.gkbsecurity.com](http://www.gkbsecurity.com)**