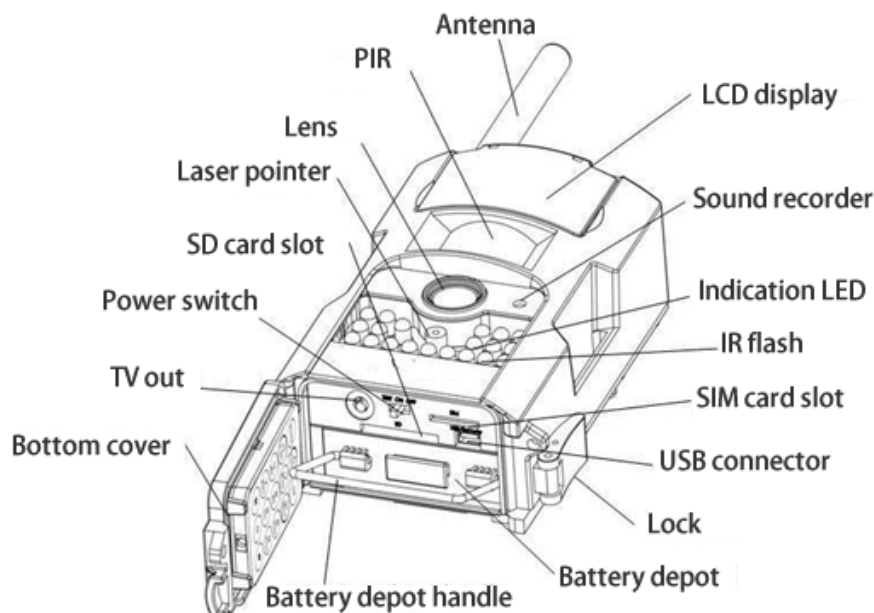


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1. Getting Started



2. Camera Operations

2.1 Batteries / Power Supply

The camera is powered by four or eight AA batteries - High-density, high-performance alkaline, rechargeable Alkaline or NiMH batteries are recommended. When the batteries are low, the camera will beep twice and automatically shut down.

A DC 6-Volt, 2 Amp external power supply adapter can also be used to power the camera (not included).

2.2 SD Card Information

To take full advantage of the latest technologies, we recommend Class 10 SD cards or better, which have fast transfer speeds and long durability for extensive shooting in the most extreme outdoor conditions. Secure Digital High Capacity (SDHC) PRO cards work with SDHC compatible devices only - Please check that your product is compatible with SDHC cards.

- **Insert the SD card into the camera before turning on the camera**
This camera supports up to a 32GB capacity SD card and has no built-in internal memory. The camera will not function without the SD card properly inserted into the camera.
- **Make sure the SD card is unlocked before inserting the SD card into the camera**
The camera will operate normally with a locked SD card inserted, but the card will not be able to store captured images or videos taken by the camera.
- **Do not remove the SD card while the camera is on**
By removing the SD card while the camera is on risks damaging the internal components of the camera.
- **If you experience any problems with an inserted SD card**
Try reformatting the SD card, utilizing the camera's main settings option.

2.3 SIM Card Information

- **Insert the SIM card into the camera before turning on the camera**
The camera SIM slot is sized for a standard SIM card. If you have a nano or micro size SIM card, a SIM card adapter (included with most of our cameras) will be required to utilize the smaller SIM card.
- **Correctly provision your SIM card with your cellular provider**
In order to receive text commands and transmit photos to your mobile phone, the SIM card must be activated to use **SMS** (text) and **MMS** (data). Text and data rates and limitations will vary from provider to provider.

Note: The camera will still function without a SIM card. The SIM card is needed only for the wireless/cellular capabilities.

2.4 Camera Modes

The different modes are accessed by sliding the power switch to the different positions marked on the camera:

- **OFF Mode**
Turns the camera off. The camera will still consume a small amount of power while in OFF mode. It is recommended to remove the batteries if the camera will not be used for a long period of time.
- **TEST/SETUP Mode**
Customize the camera settings, or play back pictures and videos the camera has taken on the LCD display.
- **ON Mode**
Camera will take pictures or video when motion is detected and/or at specific time intervals, according to the programmed settings. After switching the camera to the ON position, the motion indicator LED (red) will blink for about 10 seconds and then turn off. This preset time allows you to adjust the cameras position if needed, before the camera becomes active.

2.5 Manual Image / Video Capturing

Place the camera in ON mode and press ► to manually capture photos or record video. Press ► again to stop capturing video.

2.6 Manage Images and/or Videos

Place the camera in TEST/SETUP mode and press **OK** on the remote to view images or videos. The latest image or video will be shown on the LCD screen.

- **To view:**
Press ▲ or ▼ to view the previous or next image or video. Press OK to start a video.
- **To delete:**
Press OK on the remote in Test/Setup Mode to access the pictures and videos. Press the MENU key to enter into Playback mode. Press the ▲ or ▼ keys to find the Delete option. Press OK when the Del One option is selected. Press OK again to confirm you want to delete the picture or video.

2.7 Sending Images

Images can be sent directly to your wireless device or email, based on the Send Mode settings. Email and wireless device information need to be set up while the camera is in TEST/SETUP Mode in the Menu options. Images can only be sent when a correctly configured SIM card is recognized, installed and the wireless signal strength is adequate.

Send Mode settings will dictate how often you want pictures sent to you and the options “Daily Report” and “Instant” will only be active when the camera is in the ON mode. You can find more detailed information on the Send Mode options in the proceeding *Command List* section.

2.8 Trigger Modes

There are 3 different trigger modes for the camera: PIR Trigger/Sensitivity, Time Lapse, and a combined PIR/Time Lapse mode. These modes are activated by three different menu options (PIR Trigger/Sensitivity, PIR Interval, and Time Lapse).

- **PIR Trigger/Sensitivity**

The camera will activate when motion is detected. If the PIR Trigger/Sensitivity option is set to OFF, the camera will not respond to any motion within the camera's range.

- **Time Lapse**

The camera will activate at the set time interval regardless of motion detection. If the Time Lapse option is set to OFF, this trigger function will be disabled.

- **Combined PIR/Time Lapse**

For the combination of both PIR and Lapse triggering, the following settings must be set correctly:

- PIR Trigger/Sensitivity must NOT be set to OFF
- The Time Lapse interval must be set to a non-zero value.

The camera will capture pictures or video when motion is detected and at the preset time, regardless of motion detection.

Additional PIR settings to note:

- **PIR Interval**

This setting indicates how long the PIR sensor will be disabled after each camera triggering. During this interval time, the camera will not react to any detected motion or activate at the scheduled Time Lapse interval.

Further detailed information about the trigger modes can be found in *Camera Setup Options* section of the manual.

2.9 Laser Pointer

The laser light pointer beam can be activated to assist in the camera's positioning by pressing * on the remote control. Press * again to turn off the laser beam.

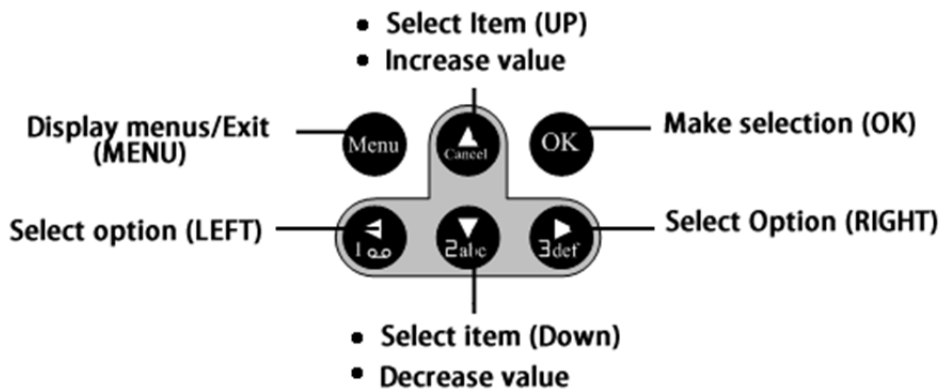
NOTE: Do not point the laser at people – The laser can cause physical harm, if shined into eyes.

3. Camera Setup Settings & Display

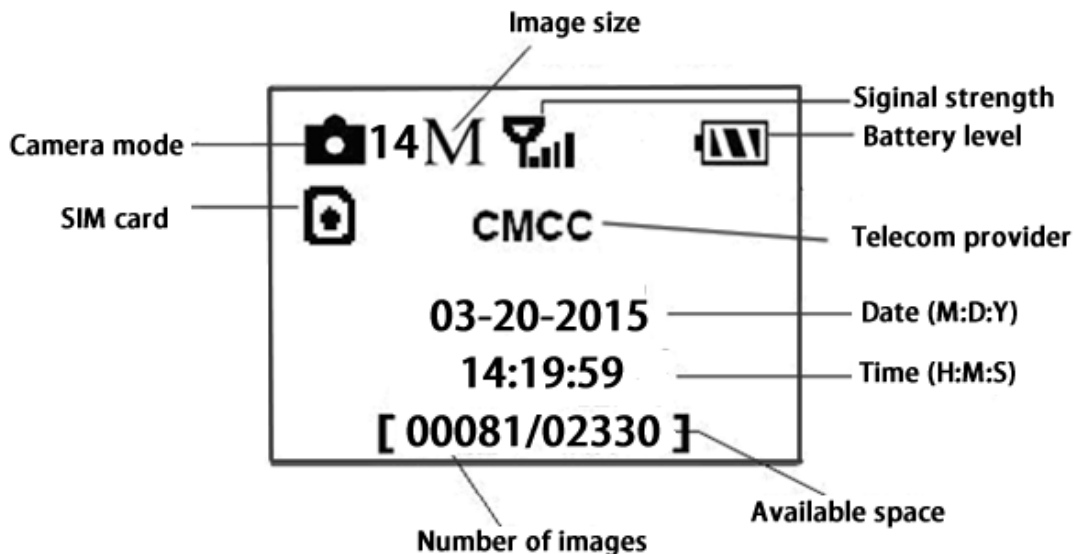
The remote control is required for initial setup and changing any camera settings. When powering on the camera, please allow 10-20 seconds for the camera to recognize the remote. If a SIM card is inserted, it is advised to wait until the camera has connected to and identified the cellular network before accessing any menu functions. An icon on the LCD screen will appear once the camera has recognized the remote. The maximum detectable range for the remote is 30 feet. The remote will not work properly without the antenna attached to the camera.

3.1 Settings Interface & Display

To update the camera settings, place the power switch to the TEST/SETUP position.



When the camera is in TEST/SETUP Mode, the screen will activate and display the following:



indicates the SIM card is recognized by the camera.

indicates the SIM card is not recognized by the camera or the SIM card is not working due to connection, configuration, or activation issues.

3.2 Mobile Communication

The camera can receive and respond to commands sent via SMS, MMS, GRPS and the Apple or Android application, as long as the camera is correctly connected to a wireless carrier.

Supported wireless carrier bands:
 GSM (MHz): 850, 900, 1800, 1900
 WCDMA (MHz): 850, 900, 1900, 2100

To enable the SMS functionality using the mobile application, complete the following steps:

- Place the camera in Test/Setup Mode and go into the menu Setup options
- Set SMS control to ON

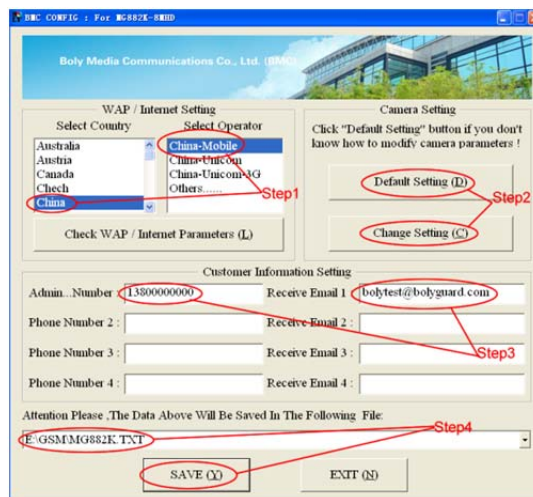
For MMS and GPRS functionality, the following menu Setup options will need to be set:

- MMS network settings (varies depending on carrier)
- GPRS network settings (varies depending on carrier)
- Send to Phone option (MMS or GPRS)

The settings for the network options vary between service providers. You will need to contact your SIM service provider for specifics on these settings.

3.3 Camera Setup Software

For easier camera setup, download the camera setup application (BMC_config.zip), along with the basic instructions from our website. In summary,



- STEP 1: Select your country and carrier.
- STEP 2: Choose between default or manual settings. For first time use, we suggest using the default settings.
- STEP 3: Input the phone number of the phone to receive/send the remote commands and images in the “administrator number” field and email address in “Receive Email 1” field (This is NOT the phone number of the inserted SIM card that resides in the camera).
- STEP 4: Save the .txt file in the GSM folder of SD card after all settings are complete.

Note: Once the SD card is inserted into the camera and the camera is turned on, this file will automatically be uploaded to the camera and be deleted from the SD card.

3.4 Mobile Applications

When the camera is switched to the ON mode, you can change some of the basic camera settings through the mobile application. The mobile application provides an easier way to send the text commands to the camera, without having to remember all the different codes and symbols. There are currently apps supported by Android and Apple devices. Charges or fees may be incurred through your cellular provider when sending text messages to the camera.

- For Android, you can download the application directly from our website, under the *Downloads* section.
- For Apple, search BGTtools in the official Apple Apps store.

3.5 Command List

All fields within brackets [] needs to be replaced with information respective to your carrier's network settings.

Note: Only the Admin phone number is able to send SMS commands to the camera - The Admin number is the first phone number you enter in the software setup outlined in the Camera Setup Software section of the manual.

Dependent on the model and firmware version, listed commands may or may not be applicable to your camera's functionality.

Functions	Text Commands
Set MMS Parameters	#m#[URL]#[IP]#[Port]#[APN]#[Account]#[Password]# Example: #m#http://mmsc.cingular.com#66.209.11.32#8080#wap.cingular#account#password#
Set GPRS Parameters	#s#[Email]#[Homepage URL]#[Port]#[APN]#[smtp]#[Account]#[Password]# Example: #s#bmc123@163.com#bmc123#25#cmnet#smtp.163.com#account#password#
Set Normal User's Phone	#n#[Phone Nbr]#[Phone Nbr] #[Phone Nbr]#
Set to Receive Email	#r#[Email]#[Email]#[Email]# Example: #r#bmc1@sina.com#bmc2@sina.com#bmc3@bmc3@sina.com#
Real Time Photo	#t# (Send MMS to phone) #t#e# (Send GRPS to email)
Check Camera Settings	#L#
Edit Work Parameters	#pn: PIR Trigger #i5s: PIR #Hon: work hour #cp: camera mode #s5:photo size #fh: video size #b1:photo burst #V60: video length #t: set clock #l10m: time lapse #mp: Send to
Format SD Card	#F#
Help	#H#

cont.

Functions	Text Commands
Change Camera Mode	#e#cp# (photo mode) #e#cv# (video mode) #e#ct# (pic+video)
Change Photo Size	#e#s5# (5mp) #e#s10# (10mp)
Change Photo Burst	#e#b1# (1~3 photos)
Change Video Size	#e#fh# (720p) #E#fl# (VGA)
Change Video Length	#e#v5# (5 seconds) #E#v30# (change number to desired length)
Change Date Time	#e#t# (adjustment the time)
Change Time Lapse	#e#1h# (1 hour) #e#15m# (5 min)
Change PIR Trigger	#e#po# (Off) #e#ph# (High) #e#pn# (Normal) #e#pl# (Low)
Change PIR Interval	#e#i30m# (30min) #e#i30s# (30sec)
Change Camera Position	#e#oa# (a~z) to set the camera position function #e#ooff# (Turn off)
Change Work Hour	#e#hoff# (Off) #e#hon10:00-18:00#

3.6 Camera Setup Options

To view the camera settings menu, slide the power switch to TEST/SETUP mode and press MENU on the remote. Use ▲ or ▼ keys to select the sub-menu. Use ◀ or ▶ keys to select the different options. Press “OK” to save the settings.

After changing EACH setting in the Setup menu, you must press OK or the camera will retain the previous setting.

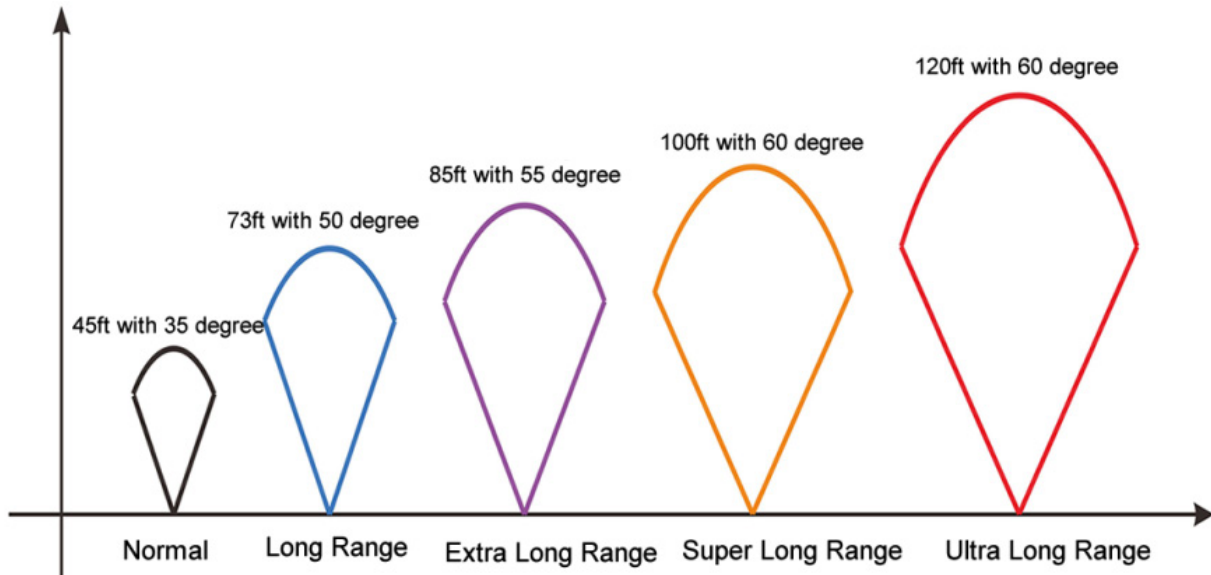
Dependent on the model and firmware version, not all Menu options may be available on your specific camera.

Menu Options	Descriptions
Language	Choose the language you prefer. Language options include: English, Finnish, German and Swedish. Default: English
Camera Mode	Choose between capturing images, videos or both at the same time: Photo, Video, Pic+Video Default: Photo
Set Clock	Set the cameras date and time. The date format is month/day/year. The time format is hour: minute: second. The valid values for the year is between 2015 and 2050.
Photo Size	Choose the image size: 5MP, 10MP, or 14MP (mega pixel) options are available. Default: 14 MP
Photo Burst	Choose the number of photos taken after the camera is triggered: 1 Photo, 2 Photo, or 3 Photo. <i>If Pic+Video is selected, Photo burst defaults to 1 photo, regardless of entered value.</i> Default: 1 Photo
Video Size	Choose the video size: 1280x720 or 640x480. Default: 1280 x 720
Video Length	Choose the duration of the video recording: Valid values extend from 5 to 60 seconds with a one second delay. Press ◀ and ▶ keys to decrease or increase the video length. Default: 10 seconds
Working Hour	This setting allows the camera to be active only during the set period of time per day. If activated, the camera will NOT take pictures or video outside of the specified working hour, regardless of any other setup option settings. The values are set to military time that range from 00:00 to 23:59. Default: OFF
Beep Sound	Enable or disable the sound the camera will make while navigating the menu settings. Default: On
Time Stamp	This setting allows you to include or exclude time/date information displayed on the photos or video the camera captures: Off or On Default: On
Position ID	Used for multiple cameras in an area. You can set an A-Z indicator for each of your cameras in order to distinguish between which photos are from a specific camera. Default: Off
Format SD	All information on the SD card will be deleted. Make sure that you have made a backup of important data already on the SD card.
Default Set (Default Settings)	Restore all settings back to the default values.
Version	Shows firmware and IMEI (International Mobile Equipment Identity) information of the camera.

cont.

Menu Options	Descriptions
<p>Time Lapse</p>	<p>The camera can capture images or videos at a preset time interval regardless of motion detection. Changing this setting to a non-zero value turns on Time Lapse mode and the camera will take photos at the set interval time – Values range from 5 minutes to a maximum of 8 hours.</p> <p><i>If PIR Trigger/Sensitivity and Time Lapse options are BOTH OFF, the camera will not capture any photos or videos.</i></p> <p>Default: OFF</p>
<p>PIR Trigger/Sensitivity</p>	<p>This setting is for the sensitivity of the PIR sensor. There are four sensitivity parameters: High, Normal, Low and Off. It is recommended to use HIGH sensitivity in areas with little environmental interference and also for warmer, humid temperatures or climates. Use LOW sensitivity for areas that have a lot of interference. The sensitivity of the PIR is effected by temperature. Higher temperatures leads to lower sensitivity.</p> <p><i>If PIR Trigger/Sensitivity and Time Lapse options are BOTH OFF, the camera will not capture any photos or videos.</i></p> <p>Default: Normal</p>
<p>PIR Interval</p>	<p>This setting indicates how long the PIR sensor will be disabled after each camera triggering. During this time the PIR sensor will not react to any detected motion or scheduled timer functions. The PIR Interval can be set between zero seconds to a maximum of 1 hour. Press LEFT or RIGHT to decrease or increase the desired PIR Interval time.</p> <p>Default: 5 seconds</p>
<p>MMS Settings</p>	<p>The camera sends MMS messages through a GPRS network. All MMS and GPRS settings need to be completed. Required MMS settings: URL, APN, IP and Port. Contact your cellular service provider if you are not familiar with these settings.</p>
<p>GPRS Settings</p>	<p>The camera sends images to email through GPRS networks with SMTP protocol. Required GPRS settings: Homepage, Port, APN, SMTP. Contact your cellular or network service provider if you are not familiar with the settings.</p>
<p>Send Mode</p>	<p>There are 4 options for this setting.</p> <ul style="list-style-type: none"> • Manual: Only works in TEST/SETUP Mode. Allows you to select specific photos to send while you are in range of the camera. • Daily Report: Only works in ON mode. This setting will send summarized information and the last picture taken per day. If set in Video Mode, the summarized information will include how many videos were taken. • Instant: Only works in ON mode. The camera will send a message instantly after it captures a photo or video. • OFF: Disable all communication functions. <p><i>Please Note: Some cellular carriers limit the size of files being sent. Some image and video files may be too large to send.</i></p> <p>Default: Off</p>
<p>SMS Control</p>	<p>SMS Control enables mobile communication functionality. When SMS Control to ON, the camera can receive and respond to your SMS commands.</p> <p>Default: OFF</p>

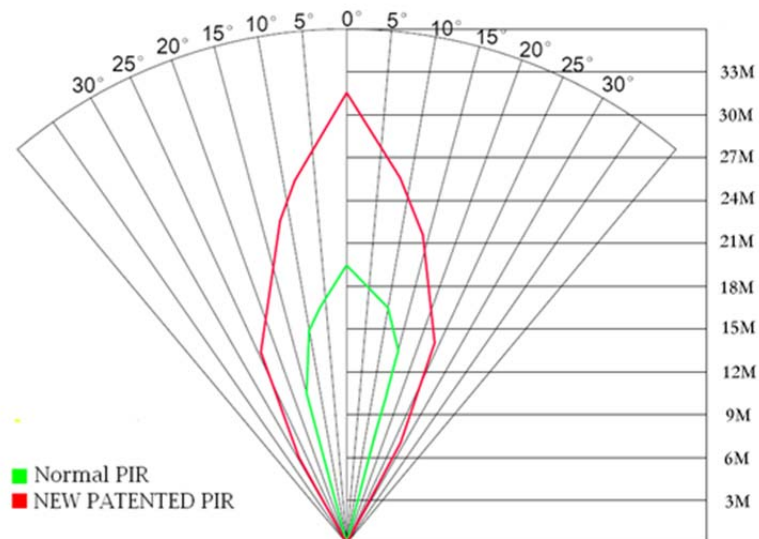
4. Detection Ranges – PIR Detection Zones



A passive infrared sensor (PIR sensor) is an electronic sensor that measures infrared (IR) light radiating from objects in its field of view. PIR Angle refers to the degree that the sensor can sense movement. Cameras that have a large PIR Angle can detect movement over larger areas and have a better chance of capturing the subject in the center of the frame as opposed to the edges like some lower quality cameras do. The longer the distance that the camera can sense, the more area that is detectable and the more opportunities the camera will have to capture that perfect picture.

In Boly cameras, the PIR Angle is slightly smaller than the camera's field of view angle. This feature is inherent in our camera designs without reducing the overall possible detection area, due to our patented technology that enhances sensor angles and lengthens trigger distance. By making the PIR Angle slightly less than the camera's field of view, we have reduced empty pictures rates and helped assure that the entire subject is captured within the photos and videos.

With our patented sensor technology, we have increased the camera's effectiveness over standard PIR cameras to assure that all detectable motion is captured. Combined with our patented BolyRaw image processing technology, we are confident that the images captured are of the highest quality that you can display and enjoy for years to come.



5. Technical Specifications

	SG880MK-12mHD	SG880MK-14mHD
Picture Resolution	5/8/12 MP	5/10/14 MP
Video Length	5 to 60 sec	
Detection Range	73ft.	
Illumination Distance	73ft.	
Image Sensor	5MP Color CMOS	
Aperture	<i>f/ 2.2</i>	<i>f/ 2.4</i>
Field of View	60 degrees	57 degrees
Trigger Time	< 1.2 sec	
Memory Card	32GB max	
Display Screen	Built-In 1.44" LCD	
Sound Recording	Yes	
Operating Ambient Temperature	-20 degrees to + 60 degrees C	
Non-Operating Temperature	-30 degrees to + 70 degrees C	
Relative Humidity	5% to 90% noncondensing	
Dimensions	140x87x55 mm	
Unit Weight	~ 0.30kg	
Power Supply	4 or 8 AA batteries or 6v, 2A external power supply	
Standby Power Consumption	<300uA	
Compliances	FCC, CE, RoHS	

* When Camera Mode is set to Pic+Video, Photo Burst option automatically disables, resulting in only one picture captured along with the video. When Camera Mode is set to Photo, Photo burst option will operate normally as specified.

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