

User's guide

NOKIA



Issue 1

9356130

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For your safety

Read these simple guidelines. Breaking the rules may be dangerous or illegal. Further detailed information is given in this user's guide.



Do not switch the camera on when wireless phone use is prohibited or when it may cause interference or danger.



ROAD SAFETY COMES FIRST Don't install the camera in a vehicle. Do not use the camera or your mobile phone to control or configure the camera while driving; park the vehicle first.



INTERFERENCE All wireless devices may get interference, which could affect performance.



SWITCH OFF IN HOSPITALS Follow any regulations and rules. Switch the camera off near medical equipment.



SWITCH OFF IN AIRCRAFT Wireless devices can cause interference in aircraft.



SWITCH OFF WHEN REFUELLING Don't use the camera at a refuelling point. Don't use near fuel or chemicals.



SWITCH OFF NEAR BLASTING Don't use the camera where blasting is in progress. Observe restrictions, and follow any regulations or rules.



USE SENSIBLY Use only in the normal operating positions. Don't touch the antenna unnecessarily.



QUALIFIED SERVICE Only qualified personnel may install or repair equipment.



ENHANCEMENTS AND BATTERIES Use only approved enhancements and batteries. Do not connect incompatible products.

For your safety



BACKUP COPIES Remember to make backup copies of all important data.



CONNECTING TO OTHER DEVICES When connecting to any other device, read its user's guide for detailed safety instructions. Do not connect incompatible products.



WATER-RESISTANCE Your camera is not water-resistant. Keep it dry.

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Introduction

The Nokia Observation Camera is a remote imaging device with a motion detector, thermometer, and microphone. With the camera you can capture images remotely and send them to your multimedia messaging (MMS) enabled mobile phone with a colour display, or to an e-mail address. You can control and configure the camera with short messages (SMS), and the PC Suite for Nokia Observation Camera software is provided for more advanced functions.

 **Note:** National laws and regulations may place restrictions on recording images and regarding further processing and use of such data. Do not use this feature illegally. Honour the privacy and other legitimate rights of others and obey all laws governing, for example, data protection, privacy, and publicity.

 **Note:** The images and messages sent from the camera will be charged to the subscription of the SIM card in the camera.

The Nokia Observation Camera is approved for use on the GSM 900/1800 network.

To use the Nokia Observation Camera, you need:

- a GPRS enabled mobile subscription with a SIM card and MMS service.
- an MMS and SMS enabled mobile phone with a colour display
- GSM network coverage in the camera premises
- an available e-mail address if you want to receive images to your e-mail.

 **Note:** Check how large MMS messages your mobile phone is capable of receiving. Your network operator may also restrict the size of MMS messages. Ask your network operator for details.

Before you can use any of these network services, you must subscribe to them through your service provider and obtain instructions for their use from your service provider.

-  **Note:** Some networks may not support all language-dependent characters and/or services.
-  **Note:** For availability, rates, and information on using SIM services, contact your SIM card vendor, e.g. network operator, service provider, or other vendor.
-  **Note:** The MMS function can be used only if it is supported by your network operator or service provider. Only devices that offer compatible multimedia message or e-mail features can receive and display multimedia messages.
-  **Important:** Multimedia message objects may contain viruses or otherwise be harmful to your phone or PC. Do not open any attachment if you are not sure of the trustworthiness of the sender.

The default setting of the multimedia message service is on ("Allow multimedia reception" is set "Yes"), and your operator or service provider may charge you for every message you receive.

-  **Warning:** Use only power source ACW-6 and enhancements approved by the camera manufacturer for use with this particular camera model. The use of any other types may invalidate any approval or warranty applying to the camera, and may be dangerous.

For availability of approved enhancements, please check with your dealer.

When you disconnect the power cord of any enhancement, grasp and pull the plug, not the cord.

-  **Warning:** Do not switch the camera on when wireless phone use is prohibited or when it may cause interference or danger.
-  **Warning:** In order to comply with RF exposure requirements for mobile transmitting devices, a minimum distance of 20 cm must be maintained between the camera and all persons.

Getting started

The Nokia Observation Camera sales package contains the following items:

- Nokia Observation Camera
- desktop/wall stand
- mounting screws and a tool for tightening them
- serial data cable
- power source and wall mount cradle
- CD-ROM with PC Suite software
- user's guide

The front panel of the Nokia Observation Camera features:

- Infrared light source for capturing images in low light (1)
- Start button for motion detection (2)
- Motion detector (3)

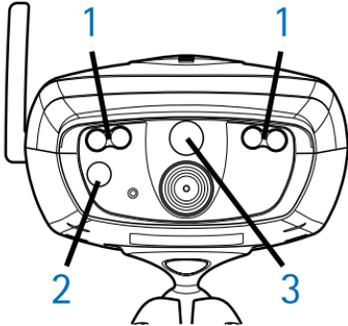


Figure 1

The back panel of the Nokia Observation Camera features:

- SIM card slot (4)
- Data connector (5)
- External antenna connector (6)
- Power connector (7)
- Thermometer (8)

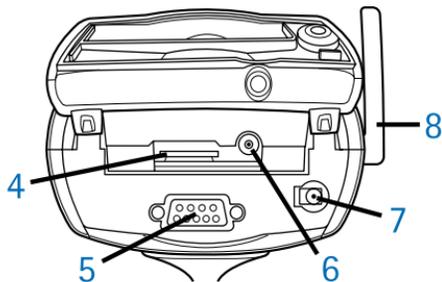


Figure 2

Installing the camera

1. Lift up the back lid of the camera and insert a SIM card as shown in Figure 3.

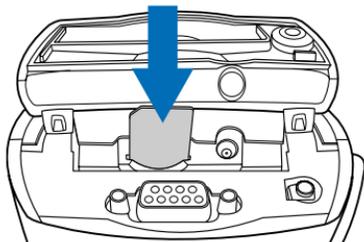


Figure 3



Note: Keep all miniature SIM cards out of the reach of small children.



Note: If you want to configure the Nokia Observation Camera settings with SMS messages, disable the PIN code request on your SIM card before inserting it into the camera. If the PIN code request is active, you can only configure the camera settings with PC Suite.

2. If you configure the camera settings with PC Suite, connect the serial data cable to the data connector at the back of the camera and to the COM port of a compatible PC.
3. Attach the power source to the power connector of the camera and plug it into a mains outlet. If the LEDs on the camera light up, the camera receives power from the mains outlet.
4. Configure the camera settings either with PC Suite or with SMS commands, see Configuring the settings with PC Suite on page 9 and Configuring the settings with SMS on page 18.
5. After completing the configuration, disconnect the serial data cable, and power off the camera by unplugging it from the mains outlet.
6. Attach the camera to the desktop stand with the screw, turn the stand to the usage position and tighten the screw with the tool included in the sales package. To tighten the ball joint, remove the rubber shield and tighten the screw. See Figure 4.

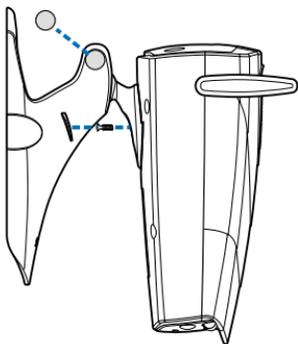


Figure 4

You can also mount the stand on a wall: remove the rubber screw shields from the desktop stand and attach it to the wall with two screws. Use the wall mount cradle to hold the power source. See Figure 5.

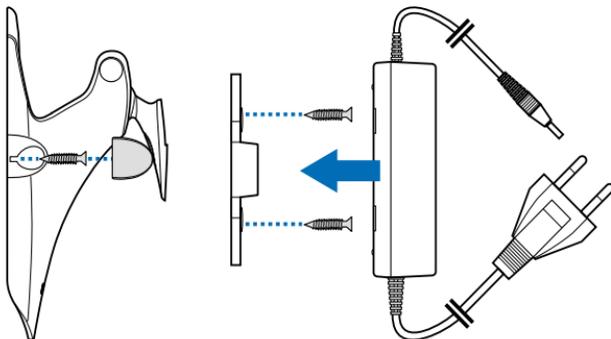


Figure 5

7. Power on the camera.



Note: When you disconnect the power cord, grasp and pull the plug, not the cord.



Tip: You can also place the camera on a standard camera tripod.

Installing the PC Suite software



Note: PC Suite for Nokia Observation Camera supports the Windows 98/2000/NT/XP operating systems and requires 5 MB of free disk space.

1. Exit all Windows programs. Insert the CD-ROM into the CD-ROM drive of your computer.

2. If the CD-ROM is not launched automatically, go to your CD-ROM drive (e.g. drive D) and double-click **Setup.exe**.
3. Select the language for the installation program and software.
4. The Welcome page of the installation wizard opens. Click **Next** to continue.
5. Read through the Nokia license agreement. If you do not accept the license agreement, click **No**, in which case you cannot use the software and the installation procedure stops. Click **Yes** to accept the license agreement.
6. Enter your name and the name of your company. Click **Next**.
7. Select the destination folder for the software. The default folder is C:\Program Files\Nokia\Nokia Observation Camera. If you want to install the software in another drive or folder, click **Browse**. When you have selected the correct destination folder, click **Next**.
8. Select the program folder for the software and click **Next**.
9. Check the installation settings. To accept them, click **Next**. To change the settings, click **Back**, make the changes, and then click **Next**. The installation program starts copying the files.
10. The Completion page informs you when the installation is completed. Remove the CD-ROM from the CD-ROM drive and click **Finish**. You may need to restart your computer.

Configuring the settings with PC Suite

With the PC Suite for Nokia Observation Camera software you can configure all the necessary settings for your camera.

The user interface of the software consists of four pages: Main, Settings, Users, and Monitor. You can open the pages by clicking the icons on the icon bar on the left.

 **Note:** If you do not have a compatible PC available, you can configure the camera settings with your mobile phone using SMS messages. See Configuring the settings with SMS on page 18.

1. To access PC Suite, go to **Start**, select **Programs**, and select **Nokia Observation Camera**.
2. Plug the serial data cable into the data connector of the Nokia Observation Camera and the COM port of your PC. You can configure the correct COM port in the File, COM Port Settings menu.
3. When the PC is connected to the camera, you are asked for your security code. The preset code is 1234. Change the preset code in the Security settings, Change access codes menu. Keep the new code secret and in a safe place separate from the camera.

 **Note:** Only those who know the security code can change the camera settings and give new users access to camera functions.

4. If the PIN code request is active on your SIM card, you will be prompted to enter the PIN code of your SIM card.
5. When PC Suite asks whether you want to import the camera settings to PC Suite, click **Yes**.

 **Note:** Before you can use the camera, you need to configure the name and the language of the camera (see page 11), the master user (see page 15), and the connection used (see page 14).

Main page

The Main page shows general information about the camera. You can also check the current settings of the camera and save them to a file on your PC.

Import: click this button to import the current settings from the camera to PC Suite.

Write: save the current settings to the camera.

Open: open a settings file from your PC.

Save as: save the current settings to your PC.

Settings page

The Settings page consists of four tabs, each of which contains a group of settings.

General settings tab

Camera name: give a name for the camera. The name can be up to 20 characters long and it must not contain spaces or special characters.

Language: select the language for the SMS commands and notifications.

Send SMS after power out: check this box if you want the camera to send you an SMS message when a power shortage has occurred and the power is back on.

 **Note:** This feature can only be used when motion detection is on.

 **Note:** The messages sent from the camera will be charged to the subscription of the SIM card in the camera.

Resolution: select whether you want to receive the images in high (640 x 480 pixels), normal (320 x 240 pixels), or compact (160 x 120 pixels) resolution.

Image quality: select whether you want the images to be of high, normal, or basic quality.

Camera position: If the camera is placed in an upright position, select *Normal*. If the camera is mounted upside down, for example on a ceiling, select *Upside down*. With this setting you can ensure that the images captured by the camera are not sent upside down.

When you have made the necessary changes, click **Apply** to use the new settings.

To use the pre-configured factory values for all the camera settings, click the **Restore** button.

Automatic imaging tab

Motion detection: check this box if you want the camera to send you images when it detects motion in its coverage area. For more information, see Using motion detection on page 30.

Send SMS when motion detected: check this box if you want the camera to send you a notification immediately when it has detected motion.

Send SMS after last detection: check this box if you want the camera to send you an SMS message after it has sent you all the defined motion detection images (see below) and has stopped detecting motion.

Image sending delay after detection: set the period after which the camera sends you an image message when it has captured a motion detection image.

Number of detections: set how many motion detection image messages (0-10) you want the camera to send you before turning off the motion detection function. If you set 0 as the number of image messages, motion detection remains on until you turn it off.



Note: A motion detection image message can contain several images captured at 0.5 second intervals. See below.

Number of images per detected motion: set how many images (1-3) you want the camera to send in each motion detection image message.

 **Note:** If you set the resolution of images to *High* on the General settings tab, you can only receive one motion detection image in a message. If you set the resolution to *Normal*, you can receive two images. If you set the resolution to *Compact*, you can receive three images.

Timed imaging: check this box if you want the camera to send you images at certain intervals.

Interval for image sending: set the interval for sending timed images.

Number of sent images: set the number of images (0-10) to be captured using timed imaging before the timed imaging function is turned off. If you set 0 as the number of images, timed imaging remains on until you turn it off.

When you have made the necessary changes, click **Apply** to use the new settings.

Thermometer tab

 **Note:** Turn the thermometer up before using it. Do not use force. See Figure 2 on page 5.

Scale: select whether to use *Celsius* or *Fahrenheit* as the temperature scale.

Read temperature: click this button to check the current temperature in the camera premises.

Temperature limits: set the minimum and maximum limits for the temperature. You can then set the camera to send you a notification when either of the limits has been reached. See below.

Send SMS when limit reached: you can set the camera to send you an SMS notification when the minimum or the maximum temperature is reached.

 **Note:** After the camera has sent you a notification on the reached temperature, you need to set the temperature limits again, if you want to continue using this function.

Include temperature value with images: check this box if you want the camera to attach the current temperature to each image message.

When you have made the necessary changes, click **Apply** to use the new settings.

Connection tab



Tip: The easiest way to make the necessary configurations is to ask your service provider to send you the settings over the air. Click **Get** at the bottom of the tab, if your service provider has enabled this service. You only need to give the number of the MMS settings service, write the SMS configuration request message, and click **Send**.

GPRS access point name: enter the name of the GPRS access point. Ask your service provider for details.

Home page address: enter the URL address of your MMS centre. Ask your service provider for details.

User name: enter your user name for the connection. You get the user name from your service provider.

Password: enter your password for the connection. You get the password from your service provider.

Gateway IP address: enter the IP address of the WAP gateway. Ask your service provider for details.

SMSC number: enter the number of your short message centre. Ask your service provider for details.

Prompt password: check this box if you want the camera to prompt for your password when making a connection. Your service provider may require using this feature.

Connection security: check this box if you want to use a secure connection. Your service provider may require using this feature.

Authentication: select whether to use normal or secure authentication. Ask your service provider for details.

Session mode: select whether to use permanent or temporary sessions when using GPRS. Ask your service provider for details.

When you have made the necessary changes, click **Apply** to use the new settings.

Users page

Up to 20 users can use the Nokia Observation Camera. One user is the master user who is allowed to configure the settings for the camera.

The camera authenticates the users by their mobile phone numbers. Requests from phone numbers unknown to the camera are ignored.

 **Note:** The images and SMS notifications sent from the camera will be charged to the subscription of the SIM card in the camera.

Name: enter the name of the user. The name can be up to 20 characters long and it must not contain spaces or special characters.

Master user: check this box if you want this user to be the master user.

 **Note:** There can be only one master user at a time. The master user is the only one with permission to configure the camera with SMS messages. Other users can only take images and use the audio connection with SMS. See Configuring the settings with SMS on page 18.

Phone number: the phone number of the user.

E-mail address: the e-mail address of the user.

Send SMS notification about: check the *Motion detection* box if you want the user to be notified when motion has been detected. Check the *Temperature limits* box if you want the user to be notified when

the temperature limits are reached. Check the *Power failure* box if you want the user to be notified when a power shortage has occurred and the power is back on.



Note: The *Power failure* option can only be used when motion detection is on.

Default image address: select whether to send the images to the user's mobile phone or e-mail address.

Allow image request: check this box if you let the user capture images.

Allow audio connection: check this box if you let the user listen to the premises of the camera.

Allow timed imaging: check this box if you let the user receive images captured using timed imaging.

Allow motion detection: check this box if you let the user to receive images captured with motion detection.

Click **Add** to include the created user to the user list. To remove a user, select the user from the user list and click **Remove**. To update a user's settings, select the user and click **Update**.

Disable image request authentication: check this box if you want to let everyone capture images without authentication.



Warning: If you check the *Disable image request authentication* box, everyone who knows the camera's phone number can capture images with the camera.

When you have added all the desired users to the user list, click **Apply** to import the user list to the camera.



Note: When you click **Apply**, the current user list of the camera is overwritten. If you want to add a user to the current user list, go to the Main page and click **Import** to open the current user list. Then edit the list on the Users page and click **Apply**.

Monitor page

On the Monitor page you can view and capture images.

Open: click this button to open a previously saved image.

Save: click this button to save the still image on the monitor.

Send: click this button to send an image as an MMS message to a recipient.

Capture image: click this button to capture an image and show it on the monitor.

Automatic update: select this option to see a continuously updated image from the camera.

Snapshot: select this option to see still images from the camera.

Operator: shows the name of your network operator.

Signal strength: shows the signal strength of the network connection.

Security settings

To set the security settings for the Nokia Observation Camera, open the Security settings menu from the menu bar.

PIN code settings: if you set the PIN mode *On*, the camera asks you to enter your PIN code in PC Suite the first time you turn the camera on. The camera then saves the PIN code in its memory and later enters the PIN code automatically every time it is turned on. If you set the PIN mode *Off*, the camera does not ask for the PIN code.

Change access codes: select whether to change the *PIN*, *PIN2*, or the *Security code*. Enter the old code, then the new code, and confirm the new code.

Enter security code: type the security code for the camera. The preset code is 1234. Change the preset code in Security settings, Change access codes menu. Keep the new code secret and in a safe place separate from the camera.

Saving the PC Suite settings

You can save the camera settings in a *.noc file. Open the File menu and select *Save* or *Save as*. Choose the location for the file and enter a name for the file. Click **Save**.

When you want to use the saved settings, open the File menu and select *Open settings file*. Select the file and click **Open**.

Configuring the settings with SMS

The Nokia Observation Camera can also be configured with SMS commands.



Note: The master user is the only one with permission to configure the camera with SMS commands. For defining the master user, see the User commands table on page 24.

When using SMS commands, remember these guidelines:

- Separate the command and the value with a space. The space is marked in the tables below with an underline character ().
- If you send several commands in one message, separate the commands with a comma.
- To check the current value of a setting, send the message: command number, space, question mark. For example: 46 ?

- When selecting a setting, you can use the following parameters: on, 1, or +.
- When removing the selection for a setting, you can use the following parameters: off, 0, or –.
- The default values of the settings are marked in the tables in bold.

When you send a command to the camera, the camera replies with a confirmation message.

Taking the camera in use with SMS commands

1. Set the language for the camera by sending the SMS command *21_security code_number of language* to the camera. The preset security code is 1234. The number of your language can be found in the General commands table below.
2. Set yourself as the master user of the camera by sending the SMS command *8_security code_user name_phone number* to the camera. Replace *user name* with your name. The name can be up to 20 characters long and it must not contain spaces or special characters. Replace *phone number* with the number of your mobile phone.
3. Set the name for the camera by sending the SMS command *25_camera name* to the camera. Replace *camera name* with the name you want to give to the camera.
4. If your service provider supports over-the-air MMS configuration, send the message *91_service number_service provider dependent text* to the camera. Ask your service provider for the service number and text. If your service provider does not support this feature, send the commands listed in the Connection commands table to the camera. Ask your service provider for details.

General commands

Task	SMS command
Set the language of the SMS commands and notifications. The language numbers are: Danish 1, Dutch 2, English 3, Finnish 4, French 5, German 6, Italian 7, Norwegian 8, Polish 9, Portuguese 10, Spanish 11, Swedish 12, Simplified Chinese 13, Traditional Chinese (Hong Kong) 14, Traditional Chinese (Taiwan) 15, Czech 16, Canadian French 17, Greek 18, Hungarian 19, Brazilian Portuguese 20, Russian 21, Latin Spanish 22, Thai 23	21_security code _number of language
Set a name for the camera	25_camera name
Define the position of the camera: normal (1), upside down (2)	19_number
Set the image resolution to high (1), normal (2), or compact (3)	11_number
Capture an image and send it to your mobile phone	1 or image
Capture an image and send it to another phone number or e-mail address	1_phone number/e-mail address or image_phone number/e-mail address

Task	SMS command
Ask for the IMEI code, and software and hardware versions of the camera	92
Set the SMS notification of power cuts on or off	18_on/off
Set confirmation messages from the camera on or off	26_on/off
Check the current settings	77
Restore factory settings	99_security code

Automatic imaging commands

Task	SMS command
Set motion detection on and set how many image messages (0-10) you want the camera to send after it has detected motion. If you set 0 as the number of image messages, motion detection remains on until you turn it off	2_on_number of messages or detection_on_number of messages
Set motion detection off	2_off or detection_off
Set the number (1-3) of images in one motion detection image message	12_number
Set motion detection notification on or off	16_on/off

Task	SMS command
Set the SMS notification on completed motion detection on or off	17_on/off
Set timed imaging on, and define the interval and the maximum number (0-10) of timed images. If you set 0 as the number of images, timed imaging remains on until you turn it off	4_on_hh:mm_number or timed_on_hh:mm_number
Set timed imaging off	4_off or timed_off

Thermometer commands

Task	SMS command
Select whether to use Celsius (1) or Fahrenheit (2) as the temperature scale	14_number
Request the current temperature	3 or temp
Set the temperature alarm on and set the temperature limits	15_on_minimum value_maximum value
Set the temperature alarm off	15_off

Task	SMS command
Set the sending of current temperature with images on or off	13_on/off

Connection commands

Task	SMS command
Request over-the-air configurations from your service provider	91_service number_service provider dependent text
Set the GPRS access point name	31_access point name
Set the address of the MMS centre home page	32_URL address
Set the user name for the connection	41_user name
Set the password for the connection	42_password
Set password prompting on or off	43_on/off
Set the gateway IP address	33_IP address
Set the SMS centre number	27_number
Select normal (1) or secure (2) authentication for the connection	44_number
Set connection security on or off	45_on/off
Select the permanent (1) or temporary (2) session mode	46_number

User commands

Task	SMS command
Define the master user. The e-mail address is not mandatory	8_security code_user name_phone number_e-mail address or master_security code_user name_phone number_e-mail address
Set the default image address for the master user: mobile phone (1) or e-mail (2)	9_security code_number or address_security code_number
Add a new user, and give the right to capture images and/or use the audio connection	5_security code_user name_user's phone number_on_on or add_security code_user name_user's phone number_on_on
Remove a user. The user can be removed based on either the user name or the phone number	6_security code_user name/phone number or remove_security code_user name/phone number

Task	SMS command
Remove several users	6_security code_user name 1/phone number 1_user name 2/phone number 2 or remove_security code__user name 1/phone number 1_user name 2/phone number 2
Check the current user list	7_security code
Set image request authentication on. The camera authenticates the users by their mobile phone numbers. Requests from phone numbers unknown to the camera are ignored	88_security code_on
Set image request authentication off. Everyone who knows the camera's phone number can capture images with the camera	88_security code_off

Security commands

Task	SMS command
Set the PIN code request on or off	22_PIN code_on/off
Change the PIN code	23_old PIN code_new code_new code
Change the security code	24_old code_new code_new code

Light indicators

The Nokia Observation Camera has three light indicators (LEDs), which indicate, for example, the network status. See Figure 6.

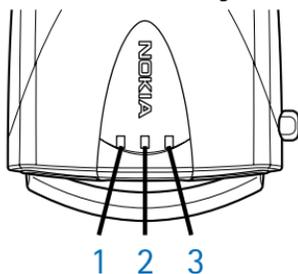


Figure 6

Start-up LEDs

LED 1	LED 2	LED 3	Description
Red and green blink	Red and green blink	Red and green blink	There is no SIM card in the camera or the SIM card is incorrectly inserted
Green scan	Green scan	Green scan	The camera is connecting to a GSM network
-	Red blink	-	Enter the PIN code in PC Suite
-	Red blink	Red blink	Enter the PUK code in PC Suite

LED 1	LED 2	LED 3	Description
Red blink	Red blink	Red blink	Failure, contact service

Signal strength LEDs

LED 1	LED 2	LED 3	Signal strength
Red blink	-	-	No connection
Green blink	-	-	No connection
Green	-	-	The signal strength of the network is weak
Green	Green blink	-	The signal strength of the network is weak
Green	Green	-	The signal strength of the network is moderate
Green	Green	Green blink	The signal strength of the network is moderate
Green	Green	Green	The signal strength of the network is strong

Operating LEDs

LED 1	LED 2	LED 3	Description
-	-	Green	The camera is connected to a GSM network
Green/Red	-	Green blink	The microphone is active
Green	-	Green	The camera is in normal operating mode
Red	-	Green	Motion detection is on
Green	Red	Green	Image sending is in progress

Using the camera

When you have made all the necessary settings to the Nokia Observation Camera, take it to the place of usage, and power up the camera by plugging the power cord to a mains outlet.

Capturing an image

To capture an image and have it sent to your mobile phone, send the SMS command *1* to the Nokia Observation Camera.

To capture an image and have it sent to another mobile phone, send the SMS command *1 phone number* to the Nokia Observation Camera (replace *phone number* with the desired mobile phone number).

To capture an image and have it sent to an e-mail address, send the SMS command *1 e-mail address* to the Nokia Observation Camera (replace *e-mail address* with the desired e-mail address).



Tip: If you want to add a message to the image, write the message to the end of the SMS command in quotation marks. For example: *1 jane@work.com "This is my new car!"*.



Note: National laws and regulations may place restrictions on recording images and regarding further processing and use of such data. Do not use this feature illegally. Honour the privacy and other legitimate rights of others and obey all laws governing, for example, data protection, privacy, and publicity.

Using motion detection

To start motion detection, press the motion detection button on the camera (see Figure 1 on page 4).



Note: You have 60 seconds to leave the premises before motion detection starts.

You can also start motion detection by sending the SMS command *2 on [number of image messages (0-10)]* to the Nokia Observation Camera (replace *[number of image messages (0-10)]* with the number of motion detection image messages you want the camera to send you), or you can configure the camera with PC Suite.



Note: If you set 0 as the number of image messages, motion detection remains on until you turn it off.

When motion detection is on, LED 1 of the camera is red. See Light indicators on page 26. When the camera detects motion in the coverage area, it captures images and sends the number of image messages specified in the settings to your mobile phone or e-mail address. Motion detection is then turned off. If you want to use motion detection again, send the SMS message *2 on [number of image messages (0-10)]* to the Nokia Observation Camera.



Note: Motion detection does not work if there are obstacles, such as windows or walls between the camera and the target.



Note: The size of the image messages and possible network-related issues may affect the time in which the image messages are received.

If the camera has detected motion, and you do not want it to send motion detection messages to anyone, you have 15 seconds to turn off motion detection by pressing the motion detection button on

the camera. You can configure the 15 second delay on the Automatic imaging tab, see page 12. If you press the motion detection button while the camera is sending an image, the camera sends the image first and then turns off motion detection.

To turn off motion detection, send the SMS command *2 off* to the Nokia Observation Camera.

Using timed imaging

To set the camera to capture images at defined intervals, send the SMS command *4 on hh:mm number* to the Nokia Observation Camera. Replace *hh:mm* with the desired interval, for example 00:01, if you want the interval to be one minute, or 01:00, if you want the interval to be one hour. Replace *number* with the maximum number (0-10) of timed images you want to receive.

 **Note:** If you set 0 as the number of images, timed imaging remains on until you turn it off.

 **Note:** If you turn timed imaging on with SMS, the images are sent to the master user only.

You can also set timed imaging on with PC Suite. With PC Suite you can also define how many timed images you want to receive before the timed imaging feature is turned off, see Automatic imaging tab on page 12.

When you have set timed imaging on, the camera sends you the first image message after the first interval has passed.

 **Note:** The size of the image messages and possible network-related issues may affect the time in which the image messages are received.

Using the thermometer



Note: Turn the thermometer up before using it. Do not use force. See Figure 2 on page 5.

To check the current temperature in the camera premises, send the SMS command 3 to the Nokia Observation Camera.

If you want the camera to send you a notification via SMS when the maximum or the minimum temperature is reached in the premises, send the SMS command *15 on minimum value maximum value* to the Nokia Observation Camera (replace *minimum value* and *maximum value* with the desired values)



Note: After the camera has sent you a notification on the reached temperature, you need to set the temperature limits again, if you want to continue using this function.

If you want the camera to include temperature in the image messages, see Thermometer tab on page 13.

Using the audio connection

Make a phone call to the Nokia Observation Camera and you can hear the voices in the premises of the camera. During the call, motion detection is disabled, and SMS commands are put on hold and executed after the call.



Note: When the camera is sending images, it cannot answer phone calls.



Note: Obey all local laws governing listening. Do not use this feature illegally.

Care and maintenance

The Nokia Observation Camera is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.

- Keep the camera and all its parts and accessories out of the reach of small children.
- Keep the camera dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the camera in dusty, dirty areas. Its moving parts can be damaged.
- Do not store the camera in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the camera in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.
- Do not attempt to open the camera. Non-expert handling may damage it.
- Do not drop, knock or shake the camera. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the camera.
- Do not paint the camera. Paint can clog the moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the camera and may violate regulations governing radio devices.

All of the above suggestions apply equally to your camera or any enhancement. If any of them is not working properly, take it to your nearest qualified service facility. The personnel there will assist you and, if necessary, arrange for service.

Important safety information

Traffic safety

Don't install the camera in a vehicle. Do not use the camera or your mobile phone to control or configure the camera while driving; park the vehicle first. Do not place the camera on the passenger seat or where it can break loose in a collision or sudden stop.

Remember road safety always comes first!

Operating environment

Remember to follow any special regulations in force in any area and always switch off your camera whenever it is forbidden to use it, or when it may cause interference or danger.

Use the camera only in its normal operating positions.

Electronic devices

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, certain electronic equipment may not be shielded against the RF signals from your camera.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles (e.g. electronic fuel injection systems, electronic antiskid (anti-lock) braking systems, electronic speed control systems, air bag systems). Check with the manufacturer or its representative

regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Pacemakers

Pacemaker manufacturers recommend that a minimum separation of 20 cm (6 inches) be maintained between a camera and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. Persons with pacemakers:

- Should always keep the camera more than 20 cm (6 inches) from their pacemaker when the camera is switched on;
- If you have any reason to suspect that interference is taking place, switch off your camera immediately.

Hearing aids

Some observation cameras may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider.

Other medical devices

Operation of any radio transmitting equipment, including cameras, may interfere with the functionality of inadequately protected medical devices. Consult a physician or the manufacturer of the medical device to determine if they are adequately shielded from external RF energy or if you have any questions. Switch off your camera in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Posted facilities

Switch your camera off in any facility where posted notices so require.

Potentially explosive atmospheres

Switch off your camera when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Users are advised to switch off the camera when at a refuelling point (service station). Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants, or where blasting operations are in progress.

Areas with a potentially explosive atmosphere are often but not always clearly marked. They include below deck on boats; chemical transfer or storage facilities; vehicles using liquified petroleum gas (such as propane or butane); areas where the air contains chemicals or particles, such as grain, dust or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Failure to observe these instructions may lead to suspension or denial of telephone services to the offender, or legal action or both.

The Nokia Observation Camera, like any wireless device, operates using radio signals, wireless and landline networks, and user-programmed functions. Because of this, connections in all conditions cannot be guaranteed. Therefore you should never rely solely upon any wireless phone for essential communications (e.g. medical emergencies).

Technical specifications

Supported operating systems	PC Suite supports Windows 98/2000/NT/XP.
Operating temperature	-10...+50 degrees Celsius, 14...122 degrees Fahrenheit
Lighting	<p>The camera captures colour images in normal lighting conditions. For low light conditions the camera includes an infrared light source. Images captured with infrared light are black and white.</p> <p>The coverage area of the infrared light is approximately 3 metres.</p>
Focus area	Minimum focus distance is 0.5 metres.
Resolution	High = 640 x 480 pixels Normal = 320 x 240 pixels Compact = 160 x 120 pixels
Image format	The image format is JPEG.
Viewing angle	The viewing angle is 58 degrees.

Motion detection coverage area	The camera reacts to moving thermal radiation, and it detects an adult of average height approximately within 5 metres. Motion detection works also in the dark.
Audio connection	You can hear a normal human conversation from approximately 4 metres in indoor conditions.
Humidity	5...95% non condensing.