

# Baby Control

**DIGITAL**



## EN Instructions for Use

Instructions for Use for Baby Control Digital breathing monitor:

- **BC-200 with one sensor pad**
- **BC-210 with two sensor pads**
- **BC-230 with three sensor pads**
- **BC-220i with two sensor pads, may be used with twin babies**
- **BC-230i with four sensor pads, may be used with twin babies**

## ***Dear mum, dear dad!***

*Thank you for purchasing Baby Control Digital breathing monitor. Thus you take a step to ensure safe and undisturbed sleep for your baby and for you as well. Baby Control Digital continuously monitors your baby's breathing movement rate during periods spent in bed, crib or pram, or wherever you use it.*

*We hope you will be satisfied with Baby Control Digital breathing monitor.*

## **Your Baby Control Digital Team**

### **! Why is it important that parents use the breathing monitor?**

- **During their first year of life, infants are at risk of the so-called sudden infant death syndrome (SIDS) that is described as a sudden and unexpected death of an otherwise healthy child. Children under one year of age have irregular breathing patterns, and may even stop breathing. The breathing monitor is the only device that is able to continuously monitor the characteristic breathing movements of your baby when lying in a bed, crib or pram and provide early warning of any potentially dangerous situation. It may thus prevent the already mentioned sudden infant death syndrome. If the parent detects the suspension of breathing (apnea) in time and is able to respond appropriately and restore breathing, the baby is likely to be saved. Using the breathing monitor is the most efficient way to prevent SIDS. Baby Control Digital breathing monitor can save life, but is not a life-saving device.**

## **Description of functions of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230, BC-220i, BC-230i)**

1. Baby Control Digital continuously monitors the breathing of a baby sleeping in the bed, crib or pram, etc.
2. The sensor pad placed directly on the grating under the mattress senses the baby's breathing movements. Information is then given to the control unit to evaluate the measured values.
3. Baby Control Digital breathing monitor detects any breathing suspension. In case of danger, i.e. if the value of breathing movements of the baby is more than twelve seconds under the pre-set threshold level of detection (see Adjusting the threshold level of detection), Baby Control Digital generates a noisy alarm.
4. But Baby Control Digital is in no way able to intervene in a dangerous situation that occurs. Only that person who underwent a dedicated training course is able to give artificial breathing and perform resuscitation. Ask your doctor for advice.

**! IMPORTANT:** Check regularly the functionality of your Baby Control Digital breathing monitor during operation! Please contact your distributor in case you have observed any defect to your Baby Control Digital.

# Features of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230, BC-220i, BC-230i)

## 1. Detection is accomplished through the mattress

Baby Control Digital breathing monitor has no direct contact with your baby. Its use does not influence the normal life conditions of the family and their baby. It is discreet and easy to use.

## 2. Uniquely large monitored area

The size of one sensor pad is 300 x 500 mm. Depending on the type Baby Control Digital breathing monitors have one, two, three or four (twin type) sensor pads. The device with three sensor pads is able to monitor the surface of most baby beds. Your fear that your baby can move outside the monitored area can be reduced by using a device with more sensor pads.

## 3. Variable placing of sensor pads

You may place the sensor pad in the baby's temporary bed as well; just take the control unit with it.

## 4. Perfect sideward sensibility

Even if the baby is not lying right on the sensor pad, the device is able to detect breathing movements coming from the side, so don't be afraid of insufficient monitoring.

## 5. It can be used with all mattress and grating types

The sensor pad of Baby Control Digital breathing monitor is placed directly on the bed grating and can be safely used with any mattress no matter how thick it is or what material it is made from.

## 6. Digitally adjustable threshold level of detection

By only several clicks of a button, it is possible to adjust the threshold level of detection of the baby's breathing movements, which best suits the environment in question.

## 7. Digital representation of the breathing movement intensity

You may watch the intensity of your baby's breathing movements on the scale from 0 to 9 on the display that is well visible also in the dark (luminous). Thus it is possible to check with only one look, whether Baby Control Digital breathing monitor is appropriately adjusted for your baby's breathing.

## 8. Baby Control Digital breathing monitor is able to play back events of the last nine minutes in one-minute steps

Baby Control Digital breathing monitor will play back the recorded events from the digital memory, which may provide important information on the details of any breathing suspension.

## 9. Double (safety) siren

Baby Control Digital breathing monitor is equipped with a safety double siren.

## 10. Battery voltage monitoring

If the battery voltage is low, the device will signalize the battery replacement when turned on.

## 11. Two-years warranty of immediate replacement

In case of any problems, we will replace your Baby Control Digital breathing monitor forthwith.

# Baby Control Digital breathing monitor accessories

## Baby Control Digital BC-200 breathing monitor package includes:

- 1 pc - BC-103 control unit
- 1 pc - BC-101 sensor pad wrapped in plastic (without phthalates according to the European standards)
- 2 pcs - Alkaline AA batteries
- 1 pc - Instructions for Use

*Baby Control Digital BC-200 breathing monitor is in control of every function that characterizes the Baby Control Digital product series: digital representation of movement intensity, event memory, digitally adjustable threshold level of detection, double safety siren, battery voltage monitoring, etc. The device package includes the large size sensor pad that provides sufficient and safe detection of breathing movements in small baby beds. Due to the high level of sideward sensibility of the sensor pad, the device is able to monitor even larger surfaces than is the size of the sensor pad itself. In case of need, it may be supplemented with two more pads (the additional pad is not part of the package). The advantage of this breathing monitor type is its favourable price.*

**Baby Control Digital BC-210 breathing monitor package includes:**

- 1 pc - BC-103 control unit
- 2 pcs - BC-101 sensor pads wrapped in plastic (without phthalates according to the European standards)
- 2 pcs - Alkaline AA batteries
- 1 pc - Instructions for Use

*Baby Control Digital BC-210 breathing monitor is in control of every function that characterizes the Baby Control Digital product series. Because it has two sensor pads, the device monitors the entire surface of an average size baby bed. Baby Control Digital breathing monitor manages any and all control over the baby's breathing, it is therefore not necessary to use any additional equipment. This type provides maximum safety for the baby and an undisturbed sleep at night for the baby's mother.*

**Baby Control Digital BC-230 breathing monitor package includes:**

- 1 pc - BC-103 control unit
- 3 pcs - BC-101 sensor pads wrapped in plastic (without phthalates according to the European standards)
- 1 pc - T-connection to connect sensor pads
- 2 pcs - Alkaline AA batteries
- 1 pc - Instructions for Use

*Baby Control Digital BC-230 breathing monitor is in control of every function that characterizes the Baby Control Digital product series. We recommend using this type of monitor for larger beds as with three sensor pads it is possible to cover much larger area. If your baby's bed is of a standard size, you can still make good use of the third sensor pad in a crib or temporary bed at grandparents. In such case it is not necessary to remove the sensor pads from under the baby, you only take with you the easily detachable control unit. Baby Control Digital BC-230 breathing monitor is an excellent choice for those parents who prefer to use several independent sensor pads or those with bed of a larger size.*

**Baby Control Digital BC-220i breathing monitor (for twins) package includes:**

- 1 pc - BC-104 control unit (usable both in one baby and twin baby mode)
- 2 pcs - BC-101 sensor pads wrapped in plastic (without phthalates according to the European standards)
- 2 pcs - T-connections to connect sensor pads
- 2 pcs - Alkaline AA batteries
- 1 pc - Instructions for Use

*Baby Control Digital BC-220i breathing monitor is in control of every function that characterizes the Baby Control Digital product series. This type of monitor offers a suitable solution for parents of twins who wish to ensure safety for their babies at lower cost. One sensor pad is intended for each baby. Experience shows that this solution is sufficient for twins until they are one year old. In case parents would need more sensor pads in the course of time, the device may be later extended. Baby Control Digital BC-220i breathing monitor is an ideal solution for twins at a really affordable price. It can also be used for one baby only and the second part later for the younger sibling.*

**Baby Control Digital BC-230i breathing monitor (for twins) package includes:**

- 1 pc - BC-104 control unit (usable both in one baby and twin baby mode)
- 4 pcs - BC-101 sensor pads wrapped in plastic (without phthalates according to the European standards)
- 2 pcs - T-connections to connect sensor pads
- 2 pcs - Alkaline AA batteries
- 1 pc - Instructions for Use

*Baby Control Digital BC-230i breathing monitor is in control of every function that characterizes the Baby Control Digital product series. This type of breathing monitor is really unique. It can be used for twin babies with two sensor pads for each baby and for one baby as well. We just get an extra-large monitored area consisting of 4 sensor pads. Thanks to the number of sensor pads, it is no problem to put your baby to sleep alternatively in several beds. Only take the portable, easily detachable control unit always with the baby. We strongly recommend this type for parents having twins.*

**BC-Wireless supplementary unit to Baby Control Digital breathing monitor package includes:**

- 1 pc - BCR-402 Wireless unit
- 1 pc - BCR-406 small-scale display unit to be worn e.g. around the neck (rechargeable Li accumulator)
- 1 pc - Instructions for use

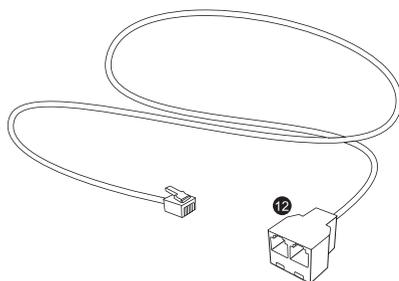
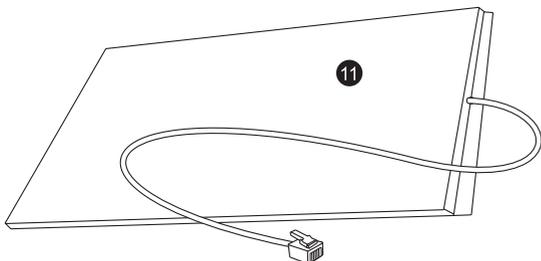
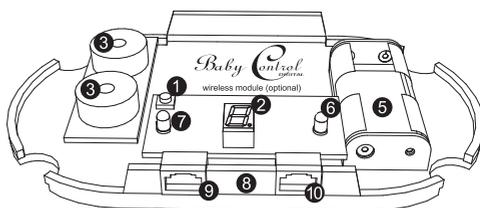
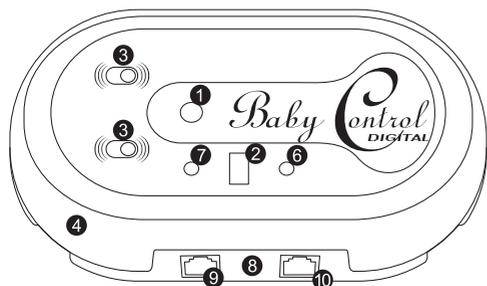
What to do if the baby's room is situated far from the parents' room or from the kitchen where the mother spends a lot of time? The solution is BC-Wireless supplementary unit. The key-holder size receiving unit can be worn around your neck and you can thus be in a permanent contact with your baby and listen to the quiet, easeful sound signalling that everything is in order in the baby's room. If the baby wakes up and starts to babble or cry, you are immediately informed via the small receiving unit you have always with you. Due to the special technical solution of radio transmitter and its low output, the BC-Wireless unit produces practically no electrosmog and so it is both environment- and baby-friendly. Optimal listening distance is 15-30 metres. The supplementary BC-Wireless unit provides an excellent solution if you must stay away from your baby, but wish to see about her/him all the time.

**BC-Bluetooth wireless supplementary unit to Baby Control Digital breathing monitor package includes:**

- 1pc - BC-BT 3.2 wireless unit
- 1pc - Instructions for Use

If you have smartphone running Android, Windows or iOS operating systems, then this supplementary unit is something you can't do without! You may freely move around your apartments and all information from Baby Control Digital breathing monitor will be displayed on your phone as well. Quiet, easeful sounds if everything is in order and noisy alarm in case of danger. The phone also signalizes if the baby babbles or cries. If you wish so, you can plunge deep into your baby's room sounds through the BC-Bluetooth supplementary unit. The working range of the supplementary unit is 15-25 metres within the apartments.

## Control and display units of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230, BC-220i, BC-230i)



## Legend

- 1 – on/off button
- 2 – numerical display
- 3 – two piezo speakers (acoustic alarm)
- 4 – upper plastic cover
- 5 – battery compartment (for two alkaline AA batteries)
- 6 – green indicator light (sensor pad status), BC-220i and BC-230i have double indicator lights, i.e. green and red combined in one
- 7 – red indicator light (alarm status), BC-220i and BC-230i have double indicator lights, i.e. green and red combined in one
- 8 – control unit
- 9 – left socket (to connect sensor pads)
- 10 – right socket (to connect sensor pads)
- 11 – sensor pad wrapped in plastic
- 12 – T-connection (for more pads or for twins)

## Putting Baby Control Digital breathing monitor to operation (BC-200, BC-210, BC-230)

1. Detach the upper plastic cover (4) from the control unit (8). Parts are not fixed with any screw, it is only necessary to put them apart carefully.
2. Insert two alkaline AA batteries (do not use rechargeable batteries) into the battery compartment (5) inside the control unit (8). Make sure the batteries are in the marked +/– orientation.
3. Subsequently, the condition of batteries and control unit (8) are automatically tested. You will hear an acoustic signal from the speaker (3) twice and the green indicator light (6) flashes once and the red indicator light (7) flashes twice.
4. Attach the upper plastic cover (4) to the control unit (8).
5. Connect the sensor pad cable (11) to the socket (9 or 10) located on the side of the control unit (8). The sensor pad (11) can be connected to any of the sockets (9 or 10).
6. Place the sensor pad (11) evenly at the bed's grating approximately on the place where the baby's chest is to be situated and place the mattress over it. Never bend, fold or roll sensor pads!
7. Attach the control unit (8) to the baby's bed using Velcro clamps. Baby Control Digital cable must be secured so that the baby cannot pull it. The best way is to turnit around one of the bed bars.
- 8. Baby Control Digital breathing monitor is ready for operation.**

**i** **INFORMATION:** When one sensor pad is used (BC-200 type), we recommend placing it under the mattress lengthwise for safety reasons; when two and more sensor pads are used (BC-210 and BC-230 types), place them crosswise. If all three sensor pads are needed (BC-230 type), connect them to the control unit using the T-connection (part of delivery). If the baby is already able to leave the place, the use of two or three sensor pads is advised, even though one sensor pad would fit the baby. It may occur that the baby moves off one sensor pad during sleep and so the other pad can take over the sensing function.

Typy monitorů dechu Baby Control Digital BC-200, BC-210, BC-230 používejte pouze pro jedno dítě. U typů BC-220i a BC-230i je možné v případě přesného nastavení (viz REŽIM DVOJČATA) rozdělení senzorových podložek mezi dvě děti.

**!** **IMPORTANT:** In rare cases, especially with low weight babies or babies lying on their sides, it may occur that the sensor pad senses poorly and the displayed measured value is often below the pre-set threshold level of detection. A temporary solution may be to readjust the threshold level of detection (see Adjusting the threshold level of detection).



## Switching ON/OFF your Baby Control Digital breathing monitor (BC-200, BC-210, BC-230)

1. Press and hold the on/off button (1) for 2 seconds. Baby Control Digital breathing monitor will not start by any shorter pressing.
2. The pre-set threshold level of detection will flash on the display (2) five times. The factory setting is „3“.
3. Then the numerical values - „0“ = no movement, „1“ to „9“ = there is any movement - will repeatedly flash on the display (2).
4. **Baby Control Digital breathing monitor is switched on and ready for operation.**
5. The green indicator light (6) flashes when the intensity of movements reaches or exceeds the pre-set threshold level of detection.
6. The red indicator light (7) will start to flash following a short acoustic signal from the speaker (3), if a dangerous situation occurs (see Alarm status of Baby Control Digital breathing monitor).
7. After the alarm acoustic signal is activated, you can stop the alarm by pressing the on/off button (1) once. The control unit (8) is switched off.
8. Baby Control Digital breathing monitor can be switched off by pressing the on/off button (1) twice in succession. After the first pressing the display (2) shows „-“ and if you press the on/off button (1) again within 5 seconds, Baby Control Digital switches off with two short acoustic signals. If you do not press the on/off button again within 5 seconds, the monitor stays on and returns to normal operation.



**IMPORTANT:** The display of the Baby Control Digital may show values „1“ - „9“ even if there is no movement or sensor pads are disconnected. This is not an error, the device only adjust the condition most conforming to the surroundings.



**INFORMATION:** When switched off, the device does not consume any electricity, thus it is not necessary to remove batteries when used daily. In case the device will be out of operation for a longer period of time, take the alkaline AA batteries out of the battery compartment (5).

## Operation of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230)

The numerical display (2) will show the intensity of breathing movements detected by Baby Control Digital approximately every 2.5 seconds („9“ - the most intensive, „1“ - the least intensive, „0“ - no movement detected). At the same time the green indicator light (6) will flash if the intensity of detected movement reaches or exceeds the pre-set threshold value. Thus it is possible to check even from a distance whether the device has detected a movement that is intensive enough. An acoustic warning signal will sound from the speaker (3) and the red indicator light (7) start to flash when the measured value does not reach the pre-set threshold level four times in succession (12 seconds). Then the alarm is activated. If the measured value is very low or equal to zero, it is likely that the mattress placed on the sensor pads is extremely thick or baby is lying close to the edge of the sensor pad (11). Please change this state to avoid false alarms.



**IMPORTANT:** For the Baby Control Digital breathing monitor operation it is very important to adjust the threshold level of detection, i.e. the value between „1“ and „9“ to be attained by the breathing movement of the baby. Typically, the value „3“ is used (factory setting). You may change the setting in justified cases (see Adjusting the threshold level of detection).

## Adjusting the threshold level of detection (BC-200, BC-210, BC-230, BC-220i, BC-230i)



**IMPORTANT:** The factory setting of the threshold level of detection is „3“. This value is optimal for babies until one year of age. Please change it only in justified cases.

The threshold level of detection of Baby Control Digital breathing monitor may be adjusted at nine levels. It may be necessary to increase or decrease it according to situation. Please bear in mind that by decreasing the threshold level of detection, Baby Control Digital breathing monitor will become more sensitive to false vibrations from the surroundings, while its increase may make it more difficult to distinguish weak breathing movements! Therefore tests must be performed several times and very carefully always after the threshold level of detection is adjusted (see Testing). A special attention must be paid to appliances emitting permanent vibrations, such as air conditioning equipment, refrigerators, etc. If other value than „0“ is flashing on the display and baby is not in the bed, Baby Control Digital breathing monitor detects vibrations from some place in its surroundings. In such case do not use it until the source of vibrations is found.

The justified case for changing the threshold level of detection is e.g. when Baby Control Digital breathing monitor without the baby's presence shows any value higher than „0“ due to vibrations and it is not possible to keep these disturbing actions from happening (e.g. strong traffic in the street). In such case please set the threshold level of detection by 2 levels higher than is the highest value caused by such disturbance. You must be aware that by increasing the threshold level of detection Baby Control Digital will not respond to tiny breathing movements of the baby which may increase the false alarm probability. This is mainly the problem with lower weight babies, whose breathing movements are weak even under normal conditions.

Sometimes, it may become necessary to set the threshold level of detection to „2“ or „1“, especially in the case of premature babies with low weight; however one should proceed with great care when decreasing the level so that vibrations coming from the surroundings do not influence the sensing. This may be checked on the display when the device is switched on and the baby is not lying in the bed! In the absence of the baby, Baby Control Digital breathing monitor must sound an alarm when in quiescent state.

## How to readjust the threshold level of detection

1. Switch off Baby Control Digital breathing monitor using on/off button (1) and wait for 5 seconds.
2. Then press the on/off button (1) and hold for 20 seconds. The display (2) will show the actual value of threshold level of detection („1“ to „9“), then letters „P“– „L“. Wait until letters „L“ – „E“ are displayed.
3. Release the on/off button (1) when „L“- „E“ (LEVEL) has appeared. Numbers „1“ to „9“ slowly appear on the display (2) (the sequence is displayed three times in succession).
4. Press shortly the on/off button (1) when your desired value of threshold level of detection appears on the display (2). Thus the new threshold level of detection is stored. This new value will quickly flash several times on the display (2) and the device is restored to normal operation.



**IMPORTANT:** Always repeat the testing after the readjustment of threshold level of detection was performed!

## Alarm status of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230)

1. The breathing movements detected on the sensor pad (11) are lower four times in succession (12 seconds) than the pre-set threshold level of detection.
2. The red indicator light (7) starts flashing and simultaneously four warning acoustic signals sound from the speaker (3). (If detection of breathing movements is restored in this phase, Baby Control Digital continues its normal operation.)
- 3. The alarm is triggered! The display (2) shows the letters „H“ - „E“ - „L“ - „P“.**
4. The alarm sounds until you press the on/off button (1). Then the device switches off.
5. The alarm is not silenced even when the signal from any of sensor pads (11) is transmitted again.
6. In case of any alarm you must check whether it is not false (false alarm can be caused by a mattress being too thick or baby moving outside the sensor pad).



**INFORMATION:** Consult your baby's doctor how to deal with such situation. Take part in trainings where advice is given together with practical exercises. This is the only way how to acquire skills that are essential when restoration of breathing is needed.



**IMPORTANT:** In the case of true alarm, check immediately whether airways are not obstructed by any foreign body or vomit. If so, try to remove the foreign body from the baby's mouth or nose and call the emergency! If you see no foreign body in the airways, immediately start with restoration of breathing based on experiences learnt at training courses. If you did not visit any such training, call any person that is able to perform first aid to restore breathing. Do not panic in danger. It is very important to keep cool, because any hasty action may lead to an irrevocable damage! One must be psychically prepared to an occurrence of such event and know exactly what to do.

## Event memory of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230, BC-220i, BC-230i)

Baby Control Digital breathing monitor features 9 minutes event memory which records the events of last 9 minutes before the switch-off (both numbers on the display and acoustic signals). These recordings may become very useful especially when alarm occurs as they make possible to gain information about whether your baby's breathing pattern before the alarm was regular or not.

### How to read the event memory

1. Switch off Baby Control Digital breathing monitor using on/off button (1) and wait for 5 seconds.
2. Then press the on/off button (1) and hold for 10 seconds until letters „P” - „L” (PLAY) appear. Release the on/off button (1).
3. The display (2) shows the minutes passed „1P”, „2P” to „9P” (max. 9 minutes). Choose how many minutes you want to replay.
4. When you see the required minute, press the on/off button (1). The values, which have been recorded during this minute, will be replayed (both numbers on the display and acoustic signals). Replay takes place in real time, which means that recorded values follow each other in the same way and same time as they happened while the device had been used.
5. You may stop replaying at any time by pressing the on/off button (1). Pressing the button once will switch Baby Control Digital to normal mode, pressing it twice will switch it off.
6. After the whole recording has been played, its end is marked with a long tone and the device switches to normal mode.

## Low voltage of Baby Control Digital breathing monitor battery (BC-200, BC-210, BC-230, BC-220i, BC-230i)

After Baby Control Digital is switched on by the on/off button (1) and after the pre-set threshold level of detection flashes five times on the display (2), the letter „E” will be constantly flashing on the display accompanied by an acoustic signal. This situation means that the battery voltage is low. Any voltage drop to 2.7V (1.35V per one battery) may endanger the reliable operation of Baby Control Digital breathing monitor. In such case do not use the device for the reasons of safety. Baby Control Digital cannot be switched off until batteries are replaced. Always keep spare alkaline AA batteries at home in order to ensure uninterrupted operation. Battery life expectancy is about 2-3 months, depending on the battery type and number of hours of operation.



**IMPORTANT:** If there is a short acoustic signal after the device has been switched on and „E” flashes once on the display, the battery will soon get exhausted. Baby Control Digital breathing monitor may be safely used for another 12 hours, however you should **replace the batteries as soon as possible!**

**Baby Control Digital breathing monitor must not be used with rechargeable AA batteries, because their combined rated voltage is only 2.4V!**

The battery condition is tested automatically after every start of the device.

## Testing Baby Control Digital breathing monitor (BC-200, BC-210, BC-230, BC-220i, BC-230i)

If you wish to try how the Baby Control Digital breathing monitor triggers a warning signal or whether it is ready for operation, then take the baby out of the bed, crib or pram when the device is switched on. The pre-set threshold level of detection will flash several times on the display (2) after switching on. Then the detected value, which flashes every two and half seconds, will be lower and lower as there is no movement, until you gently touch the sensor pad or mattress with your hand. If you keep your hand directly on the sensor pad, the device will detect even continuous, instinct muscle movements and so the displayed value is not zero (mostly „9“).

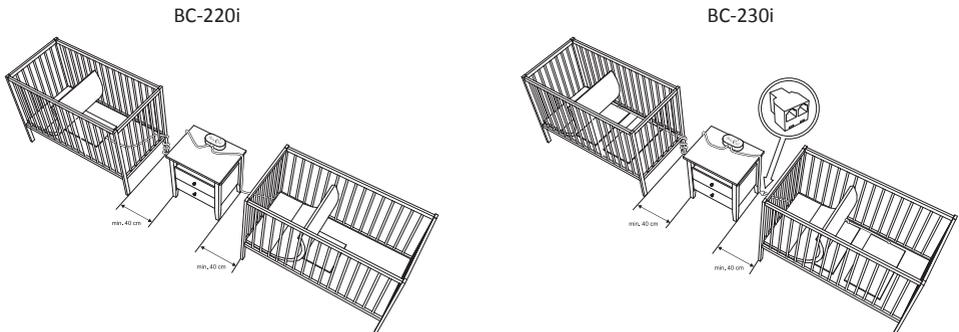
Because of its high sensitivity, Baby Control Digital breathing monitor may be tested as follows: stand half a meter (about 50 cm) from the bed and wait until the display shows „0“ or „1“. Then blow towards the mattress. Baby Control Digital will detect this movement and the displayed value must be at least one level higher than is the pre-set threshold level of detection. Then the alarm situation should occur (see Alarm status). Test your Baby Control Digital breathing monitor at least once or twice a week.

**IMPORTANT:** Baby Control Digital breathing monitor is sensitive to even tiny mechanical vibrations coming from the surroundings and its operation may be influenced by external effects (ventilator, draught, nearby refrigerator, TV, toy of baby's elder brother or sister, dynamic walk near the bed, etc.). We recommend to eliminate these effects as much as possible not only for the sake of the baby's undisturbed sleep, but also to avoid the malfunction of the device. If these effects cannot be completely eliminated, then perform the testing with increased caution. In case of need you may decrease the sensitivity of Baby Control Digital breathing monitor so that the threshold level of detection is adjusted in the manner described above (see Adjusting the threshold level of detection).

## Baby Control Digital breathing monitor – TWIN MODE (BC-220i, BC-230i)

### Characteristic features

If appropriate conditions are met, Baby Control Digital breathing monitors of BC-220i and BC-230i types are able to monitor the breathing of twin (two) babies at the same time and sound alarm if suspension of breathing occurs in anyone of them. Baby Control Digital breathing monitors of BC-220i and BC-230i types only differ in the number of their sensor pads. (BC-220i – 2 sensor pads, BC-230i – 4 sensor pads).



To ensure proper functioning of the twin mode, each baby must be placed in his/her own bed. Beds must be placed from each other as far as the cables of the sensor pads make it possible, but at least 40 cm. This way the movements of babies will not interfere with one another's sensor pads. You may test whether the beds are in adequate distance by taking one baby out of the bed. The sensor pad placed in his/her bed then must display the state with no movement and Baby Control Digital breathing monitor must trigger an alarm. Then the test should also be carried out with the second baby. At least 2 sensor pads are needed for the twins, one pad under each baby.

## Putting Baby Control Digital breathing monitor – TWIN MODE (BC-220i, BC-230i)

1. Detach the upper plastic cover (4) from the control unit (8). Parts are not fixed with any screw, it is only necessary to put them apart carefully.
2. Insert two alkaline AA batteries (do not use rechargeable batteries) into the battery compartment (5) inside the control unit (8). Make sure the batteries are in the marked +/- orientation.
3. Subsequently, the condition of batteries and control unit (8) are automatically tested. You will hear an acoustic signal from the speaker (3) twice and simultaneously the left indicator light (6) flashes green and the right indicator light (7) flashes red.
4. Attach the upper plastic cover (4) to the control unit (8).
5. Connect the sensor pad cables (11) to the socket (9 or 10) located on the side of the control unit (8).
6. Place the sensor pads (11) evenly at the bed's grating (approximately on the place where the baby's chest is to be situated) and place the mattress over them. Never bend, fold or roll sensor pads!
7. Attach the control unit (8) to the baby bed using Velcro clamps. Baby Control Digital cable must be secured so that the larger baby cannot pull it, the best way is to turn it around one of the bed bars
8. **Baby Control Digital breathing monitor is ready for operation.**

## Switching ON/OFF Baby Control Digital breathing monitor – TWIN MODE (BC-220i, BC-230i)

1. Press and hold the on/off button (1) for 2 seconds. Baby Control Digital breathing monitor will not start by any shorter pressing.
2. The pre-set threshold level of detection will flash on the display (2) ten times. The factory setting is "3".
3. Then the numerical values „0“ = no movement, „1“ to „9“ = there is any movement will repeatedly flash on the display (2). At first, the measured value coming from the left socket (9) is displayed with simultaneous flashing of the left indicator light (6), then from the right socket (10) with simultaneous flashing of the right indicator light (7).
4. **Baby Control Digital breathing monitor is switched on and ready for operation.**
5. The indicator lights (6 and 7) flash green when the intensity of breathing movements reaches or exceeds the pre-set threshold level of detection.
6. The indicator light (6 or 7) will start to flash red accompanied by a short acoustic signal from the speaker (3) if a dangerous situation occurs (see Alarm status of Baby Control Digital breathing monitor - TWIN MODE).
7. After the alarm acoustic signal is activated, you can stop the alarm by only pressing the on/off button (1) once. The control unit (8) is switched off.
8. Baby Control Digital breathing monitor can be switched off by pressing the on/off button (1) twice in succession. After the first pressing the display (2) shows „-“ and if you press the on/off button (1) again within 5 seconds, the device switches off with two short acoustic signals. If you do not press the on/off button again within 5 seconds, the monitor stays on and returns to normal operation.

## Operation of Baby Control Digital breathing monitor – TWIN MODE (BC-220i, BC-230i)

The numerical display (2) will show the intensity of breathing movements detected by Baby Control Digital approximately every 2.5 seconds („9“ - the most intensive, „1“ - the least intensive, „0“ - no movement detected). At first, the value coming from the left socket (9) is displayed – breathing movements of the baby lying on the sensor pad to the left. Then the value coming from the right socket (10) is displayed - breathing movements of the baby lying on the sensor pad to the right. At the same time the indicator light (6) above the socket (9) and the indicator light (7) above the socket (10) flash green if the intensity of detected movements reaches or exceeds the pre-set threshold level. Thus it is possible to check even from a distance whether the device has detected movements that are intensive enough. An acoustic warning signal will sound from the speaker (3) and the indicator light (6 or 7) will start to flash red when the measured value does not reach the pre-set threshold level of detection four times in succession (12 seconds). Then the alarm is activated. If the measured value is very low or equal to zero, it is likely that the mattress placed on the sensor pad is extremely thick or baby is lying close to the edge of the sensor pad (11). Please change this state to avoid false alarms.

 **IMPORTANT:** In the twin mode, at first the status of the sensor pad connected to the socket on the **left-hand side** flashes on the display, then the status of the sensor pad on the **right-hand side**.

 **IMPORTANT:** For the Baby Control Digital breathing monitor operation it is very important to adjust the threshold level of detection, i.e. the value between „1“ and „9“ to be attained by the breathing movement of the baby. Typically, the value „3“ is used (factory setting). You may change the setting in justified cases (see Adjusting the threshold level of detection).

## Alarm status of Baby Control Digital breathing monitor – TWIN MODE (BC-220i, BC-230i)

1. The detected value of breathing movements coming from the left or right sensor pad (11) is lower four times in succession (12 seconds) than the pre-set threshold level of detection.
2. The indicator light (6 – baby lying to the left or 7 – baby lying to the right) above the appropriate socket starts flashing red and simultaneously four warning acoustic signals sound from the speaker (3). (If detection of breathing movements is restored in this phase, Baby Control Digital continues its normal operation.)
- 3. The alarm is triggered! The display (2) shows the letters „H“ - „E“ - „L“ - „P“.**
4. The alarm sounds until you press the on/off button (1). Then the device switches off.
5. The alarm is not silenced even when the signal from any of sensor pads (11) is transmitted again.
6. In case of any alarm you must check whether it is not false (false alarm can be caused by a mattress being too thick or baby moving outside the sensor pad).

 **IMPORTANT:** When you use more than one sensor pad under one baby in the twin mode, you may connect maximally 2-2 sensor pads to Baby Control Digital breathing monitor using the T-connection (part of delivery). **Take special care that the two sensor pads connected using T-connection are placed under the same baby!** Otherwise the device is not able to differentiate between the movements of two babies.

## Temporary/permanent suspension of TWIN MODE (BC-220i, BC-230i)

Baby Control Digital breathing monitor of BC-220i and BC-230i types for twins may also be used for only one baby. Before that the device must be switched from the twin mode into one-baby mode. This means a **permanent** switching from one mode to another - **not to be confused with a temporary suspension of the twin mode!**

1. When switched off, press the on/off button (1) and hold for approximately 30 seconds until letters „S” - „E” appear. Release the on/off button (1).
2. The display shows alternating values „1” and „2”.
3. If you press the on/off button (1) while „1” is displayed, Baby Control Digital breathing monitor will be set to the one-baby mode and should be operated according to instructions described above.
4. If you press the on/off button (1) while „2” is displayed, the twin mode is set.

## Temporary suspension of TWIN MODE

Baby Control Digital breathing monitor offers you the option of **temporary suspension of the twin mode** in case that one baby is still sleeping, but the other had to be taken out of the bed for any reason.

1. For temporary suspension of the twin mode shortly press the on/off button (1) once. This will cause the temporary change to the one-baby mode.
2. The red flashing indicator light (6 or 7) on the side where the baby is not present warns you not to forget to change the device back to the twin mode after the second baby is returned to the bed on the sensor pad (11) connected into an appropriate socket (9 or 10).
3. The twin mode is restored by shortly pressing the on/off button (1) again.

**!** **IMPORTANT:** Baby Control Digital breathing monitor is wholly independent of 230V network and operates exclusively at low voltage. An electric shock is practically impossible! The device does not generate or emit any electromagnetic or other radiation. The use of the device is perfectly safe.

**!** **IF YOU HAVE ANY SUSPICION OF DEFECT, DO NOT USE THE DEVICE UNDER ANY CIRCUMSTANCES!**



## Technical specifications of Baby Control Digital breathing monitor (BC-200, BC-210, BC-230, BC-220i, BC-230i)

### Control unit (BC-200, BC-210, BC-230, BC-220i, BC-230i)

Power supply	3V, 2×1.5V alkaline AA batteries (average service life 1500-1700 hours)
Dimensions	155×90×37 mm
Weight	155 g

### Sensor pad (BC-200, BC-210, BC-230, BC-220i, BC-230i)

Recommended weight of baby	from 2 kg to 20 kg
Dimensions	500×305×15 mm
Weight	750 g

## Technical specifications of BC-Wireless (BCR-402) and receiver (BCR-406)

### BC-Wireless (BCR-402) – transmitter

Working frequency	2400 MHz - 2483.5 MHz
Output power	5 dBm (max 1mW, typ. 0.2mW)
Dimensions	52×36×20 mm
Number of channels	83
Weight	20 g

### BC-Wireless (BCR-406) – receiver

Receiving unit	Li accumulator, recharging from mini USB (small-scale, portable)
Dimensions	37×57×16 mm
Weight	25 g

## Technical specifications of BC-Bluetooth (BC-BT3.2) wireless unit

Application/OS	smartphone, tablet, PC, notebook / Android, Windows, iOS
Operation	Bluetooth 1.2 standard, Class 2, up to 15-25 m (within the apartments)
Working frequency	2402 MHz - 2480 MHz
Output power	2.5 mW (4 dBm) + 3.5 dBm (PCB antenna)
Dimensions	52×36×20 mm
Weight	20 g

# Manufacturer's Declaration of Conformity

Declarer's Name	VMD 95 Kereskedelmi és Szolgáltató Kft.
Declarer's Address	Színjászó u. 19, H-1163 Budapest, Hungary
Subject of declaration	Baby Control Digital breathing monitor system series

MSZ EN ISO 13485:2012

MSZ EN ISO 14971:2013

MSZ EN ISO/IEC 17050-1:2010

GYEMSZI/EMKI: **CE 1011**

Clinically tested.

## Certification

Certification	CE 1011 II.b Certificate No. EMKI 5-738-200-1308
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### EU Manufacturer:

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