beurer EM 59 Digital TENS-EMS Unit with Heat Function Instruction Manual

EM 59 Digital TENS-EMS Unit with Heat Function Instruction Manual

CE 2460

Read these instructions carefully and keep them for later use, be sure to make them accessible to other users and observe the information they contain.

Signs and symbols

The following symbols appear in the instructions for use and on the device.

	**WARNING** Warning notice indicating a risk of injury or damage to health
	**IMPORTANT** Safety note indicating possible damage to the devi- ce/accessory
	**Note** Note on important information
	Observe the instructions for use
IP22	Protected against ingress of solid foreign objects greater than 12.5 mm in diameter. Protected against drops of water falling at up to 15° from vertical.
SN	Serial number
	Application part, type BF

	Disposal in accordance with the Waste Electrical and Electronic Equipment EC Directive – WEEE
CE 2460	This product satisfies the requirements of the applicable European and national directives.
	Manufacturer
	European Authorized Representative
EC REP	The device can emit effective output values above 10 mA, averaged over every 5-second interval
21 PAP	Dispose of packaging in an environmentally friendly manner
Storage / Transport 	Permissible storage and transport temperature and humidity
Operating 	Permissible operating temperature and humidity.

Contents

Included in delivery and accessories

Check that the set packaging has not been tampered with and make sure that all contents are present. Before use, ensure that there is no visible damage to the device or accessories and that all packaging material has been removed. If you have any doubts, do not use the device and contact your retailer or the specified Customer Service address.

	4 x electrodes including gel pads 1 x EM59 Heat unit 1 x connection cable 1 x belt clip

Getting to know your device

Dear customer,
Thank you for choosing a product from our range. Our name is synonymous with high-quality, thoroughly tested products for applications in the areas of heat, weight, blood pressure, body temperature, pulse, gentle therapy, massage, beauty, baby and air What is EM 59 Heat, and what can it do?
EM 59 Heat falls into the electrostimulation device category. It provides four basic functions suitable for combined operation:

1. Electrical stimulation of nerve tracts (TENS)
2. Electrical stimulation of muscle tissue (EMS)
3. A massage effect triggered by electrical stimulation
4. The heat function

The unit also features two independent stimulation channels and four electrodes. It offers a wide range of functions for increasing general well-being, pain relief, maintaining physical fitness, relaxation, muscle revitalization and combating tiredness.
The principle of electrostimulation devices is based on the imitation of impulses in our bodies that are transferred to nerve and muscle fibers using electrodes via our skin. The electrodes can be applied to many parts of the body; the electrical impulses are completely harmless and virtually painless. In certain applications, you will only perceive a slight tingling or vibrating sensation. The electrical impulses that are sent into the tissue influence the transmission of stimulation into nerves, nerve centers, and muscle groups in the application area.
Electrostimulation usually only has an effect after regular applications. With regard to muscles, electrostimulation does not replace regular training. However, it is a sensible, supplementary training element.
To enable pain to be alleviated even more pleasantly, with the EM 59 Heat you can also switch on a soothing heat function.
TENS, or transcutaneous electrical nerve stimulation, relates to the electrical stimulation of the nerves through the skin. TENS is an effective non-pharmacological method of treating different types of pain that have a variety of causes. It has no side effects if administered correctly. The method has been clinically tested and approved and can be used for simple self-treatment. The pain-relieving or pain-suppressing effect is achieved by inhibiting the transfer of pain to nerve fibers (caused mainly by high-frequency pulses) and by increasing the secretion of endorphins in the body. Their effect on the central nervous system reduces the sensation of pain. The method is scientifically substantiated and approved as a form of medical treatment.
Any symptoms that could be relieved using TENS must be checked by your GP. Your GP will also give you instructions on how to carry out a TENS self-treatment regime.
TENS is clinically tested and approved to treat the following complaints:

- Back pain, particularly in the lumbar/cervical spine area
- Sore joints (e.g. knee, hip and shoulder joints)
- Neuralgia • Menstrual cramps in women
- Pain resulting from injury to the musculoskeletal system
- Pain caused by circulatory disorders

- Chronic pain with various causes.

Electrical muscle stimulation (EMS) is a widespread and generally recognized method and has been used in sports and rehabilitation medicine for years. In sports and fitness, EMS is used to complement conventional muscle training, to increase the performance of muscle groups and to adjust physical proportions to achieve the desired aesthetic results, amongst other things. There are two different types of EMS applications. One is for targeted strengthening of the muscles (activating application), and the other is to achieve a relaxing, restful effect (relaxing application).
The activating application involves:

- Muscle training to increase endurance and/or
- Muscle tr aining to support the strengthening of specific muscles or muscle groups, and to achieve the desired changes to physical proportions

The relaxing application involves:

- Muscle relaxation for easing muscle tension
- I'm having symptoms of muscular fatigue
- Acceleration of muscle regeneration after intense muscle performance (e.g. after a marathon)

Thanks to integrated massage technology, the EM 59 Heat is also capable of relieving muscle tension and combating fatigue with a program based on the sensation and effects of a real massage.
For the purposes of alleviating any discomfort even more pleasantly, the EM 59 Heat also offers the option of adding soothing heat in two stages, with a maximum heat generation of 43 °C. Heat is proven to promote blood circulation and thereby exerts a relaxing effect. The heat function of the EM 59 Heat can be used parallel or separately to a stimulation.
The positioning suggestions and program tables in these instructions for use allow you to quickly and simply determine the corresponding application (depending on the affected area of the body) and set the unit to achieve the desired effects.
Thanks to its two separately adjustable channels, the EM 59 Heat offers you the advantage of being able to set the intensity of the impulses independently from each other for two treatment areas on the body, for example to cover both sides of your body or to evenly stimulate larger areas of tissue. The option to individually set the intensity of each channel also enables you to treat two separate areas of the body simultaneously instead of having to treat the individual areas in turn, which saves you time.

Important notes

This device is not a substitute for medical consultation and treatment. Consult your doctor first if you are experiencing any pain or are suffering from an illness.

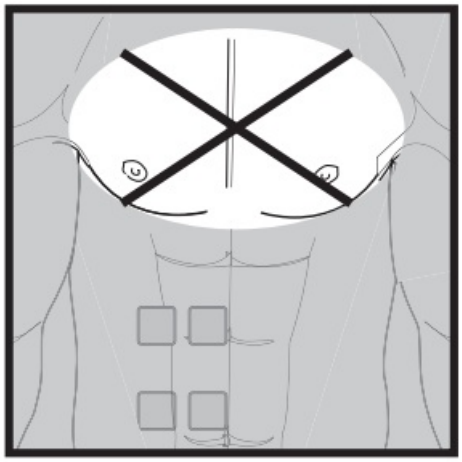
⚠ WARNING!
To avoid damage to health, we strongly advise against using the digital EMS/TENS unit in the following situations:

- With implanted electrical devices (such as a pacemaker)
- In the case of metal implants
- If you use an insulin pump
- If you have a high temperature (e.g. > 39°C)
- If you have a known or acute cardiac arrhythmia, or disorders of the heart's impulse and conduction system
- If you suffer from a seizure disorder (e.g. epilepsy)

- If you are pregnant
- If you have cancer
- After an operation, if strong muscle contractions could affect the healing process
- The device must never be used close to the heart.

The stimulation electrodes must not be placed on any part of the front ribcage (where the ribs and breastbone are located), especially not on the two large pectorals. This can increase the risk of ventricular fibrillation and induce cardiac arrest.

- On the skeletal skull structure, or around the mouth, throat or larynx
- In the neck/carotid artery area
- In the genital area
- On acutely or chronically diseased (injured or irritated) skin (e.g. inflamed skin – whether painful or not, reddened skin, rashes, e.g. allergies, burns, bruises, swellings, both open and healing wounds, and post-operative scars where the healing process could be affected)



- In humid environments (e.g. in the bathroom) or when bathing or showering
- Do not use after consuming alcohol
- If connected to a high-frequency surgical device
- In the case of acute or chronic diseases of the gastrointestinal tract
- Stimulation should not be carried out around or on the head, directly over the eyes, on the mouth, the throat (the carotid artery in particular) or using electrodes placed on the chest, the upper back or over the heart.

Before using the device, consult your doctor if any of the following apply to you:

- Serious illnesses, in particular, if you suspect or have been diagnosed with high blood pressure, a blood coagulation disorder, propensity to thrombo-embolic conditions or recurrent malignant growths
- Any skin conditions
- If you have unexplained chronic pain in any part of the body
- Diabetes
- If you have any sensory impairment that reduces the feeling of pain (e.g. metabolic disorders)
- If you are receiving medical treatment
- In the event of complaints linked to stimulation treatment
- If you suffer from persistently irritated skin due to long-term stimulation at the same electrode site

⚠ **IMPORTANT**
Only use digital EMS/TENS units:

- On people
- For the purpose for which it was developed and as specified in these instructions for use. Any improper use can be dangerous
- For external use
- With the original accessories supplied, which can be re-ordered.
  Failure to do so invalidates the warranty.

PRECAUTIONS:

- Always pull firmly on electrodes to remove them from the skin to prevent injuries in the unusual case of highly sensitive skin.
- Keep the device away from sources of heat (heating devices such as driers or ovens) and do not use it in close proximity (approx. 1 m) to shortwave or microwave devices (e.g. mobile phones), as doing so can result in unpleasant current peaks.
- Do not expose the device to direct sunlight or high temperatures.
- Protect the device from dust, dirt and humidity.
- Never immerse the device in water or other liquids.
- The device is suitable for self-treatment.
- For hygiene reasons, the electrodes may only be used on one person.
- If the device does not work properly, or if you feel unwell or experience pain, stop using it immediately.
- Switch off the unit or the respective channel first before removing or relocating electrodes to prevent unintentional stimulation.
- • Do not modify electrodes (e.g. by cutting them), as this increases the current density, which is potentially hazardous (max. recommended output value for the electrodes is 9 mA/cm², an effective current density beyond 2 mA/cm² requires increased awareness).
- Do not use the device whilst asleep, driving a vehicle or operating machinery.
- Do not use it whilst undertaking any activity where an unexpected reaction (e.g. strong muscle contractions even at low intensity) could be dangerous.
- Ensure that no metallic objects (e.g. belt buckles or necklaces) come into contact with the electrodes during stimulation. If you are wearing jewellery or have piercings in the area to be treated (e.g. a navel piercing), these must be removed before using the device. Failure to do so could result in spot burns.
- Keep the device away from children.
- Make sure not to confuse the electrode cables including contacts with your headphones or other devices, and do not connect the electrodes to other devices.
- Do not use the device whilst using other devices that transmit electrical impulses to your body.
- Do not use in the vicinity of highly flammable substances, gases or explosives.
- The actual temperature may vary depending on the condition of your skin, your age, the location of the pain, etc.
- If the heat function feels too hot, stop treatment immediately. You can continue the TENS, EMS or massage treatment without the heat function.

- During the initial few minutes, use the device while sitting or lying down to minimize the risk of injury resulting from isolated cases of vagal responses (feeling of faintness). If you feel faint, immediately switch off the device, lie down and support your legs in an elevated position (approx. 5 –10 min.).
- Treatment of the skin with moisturizing lotions or ointments beforehand is not recommended as this considerably increases the gel pad wear and may cause unpleasant current peaks.
- This device is not intended for use by children or people with restricted physical, sensory (e.g. reduced sensitivity to pain) or mental skills or a lack of experience and/or lack of knowledge unless they are supervised by a person who is responsible for their safety or who are instructed by such a person in how to use the device.
- If the adhesive capability of the gel pads decreases, please replace them immediately. Do not use the device until you have the new gel pads. Otherwise, the unequal adhesion of the gel pads may lead to skin injuries. Replace the gel pads with new ones at the latest after having used them 20 times.

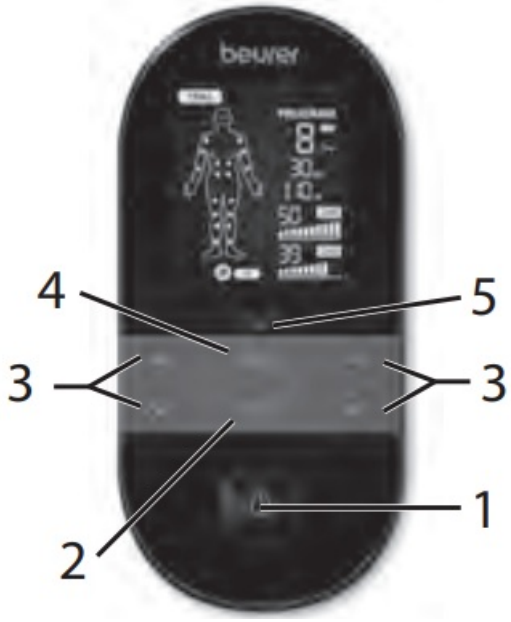
Damage

- If the device is damaged, do not use it and contact your retailer or the specified Customer Services address.
- To ensure that the device functions effectively do not drop it or dismantle it.
- Check the device for signs of wear and tear or damage. If there are such signs of wear and tear or damage or if the device was used improperly, it must be returned to the manufacturer or retailer before further use.
- Switch the device off immediately if it is faulty or not working properly.
- Never attempt to open and/or repair the device yourself. Repairs may only be carried out by Customer Services or authorized retailers. Failure to comply with this instruction will void the warranty.
- The manufacturer is not liable for damage resulting from improper or careless use.

Notes on handling batteries

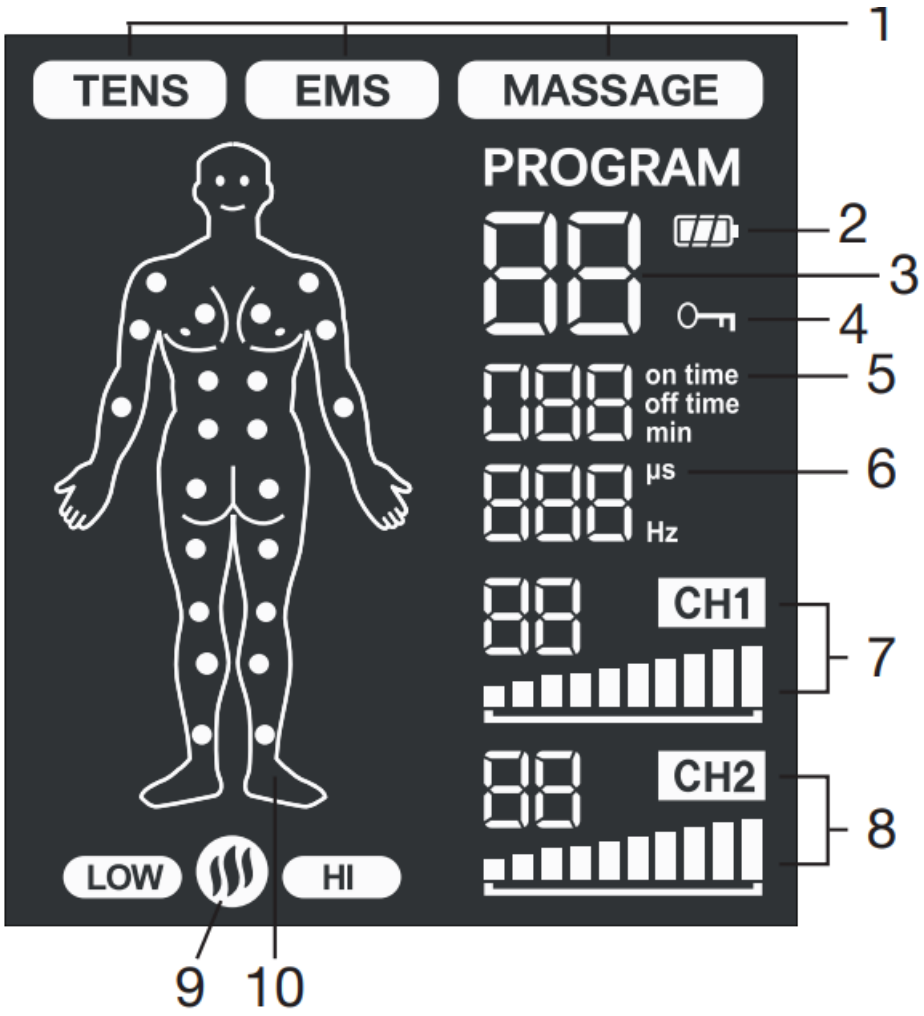
- If your skin or eyes come into contact with fluid from a battery cell, flush out the affected areas with water and seek medical assistance.
- Choking hazard! Small children may swallow and choke on batteries. Store batteries out of the reach of small children.
- If a battery has leaked put on protective gloves to dispose of the device.
- Protect batteries from excessive heat.
- Risk of explosion! Never throw batteries into a fire.
- Do not disassemble, split or crush the batteries.
- Only use chargers as specified in the instructions for use. Only charge the device using the supplied charging cable.
- Always switch the device off in advance of charging.
- Batteries must be charged correctly prior to use. The instructions from the manufacturer and the specifications in these instructions for use regarding correct charging must be observed at all times.
- Fully charge the battery prior to initial use (see section 4).
- In order to achieve the longest battery service life possible, fully charge the battery at least 2 times a year.

Device description Buttons:



1. ON/OFF button
2. ENTER button
3. Setting buttons (CH1 ˄/˅ left, CH2 ˄/˅ right)
4. MENU button
5. Heat button

Display (full screen):



1. Menu TENS / EMS / MASSAGE
2. Battery status
3. Program number
4. Button lock
5. Timer function (remaining time display)
6. Display for frequency (Hz) and pulse width (µs)
7. Impulse intensity channel 1 CH1
8. Impulse intensity channel 2 CH2
9. Heat function low/high
10. Electrode positioning indicator

Initial use

Before you use the EM 59 Heat for the first time, let it charge for a minimum of 4 hours. Proceed as follows.

1. Connect the USB charging cable to a mains adapter (max. output 5V/2A) and the EM59 Heat
2. Then insert the mains adapter into a suitable socket.
3. Alternatively, you can charge the device using your computer/laptop. To do so, connect the device to a USB port on your PC/laptop via the USB charging cable. You cannot use the device while it is being charged.
4. Turn the belt clip if required.

5. Guide the connection cable plugs into the socket on the bottom of the device (Fig. 3).

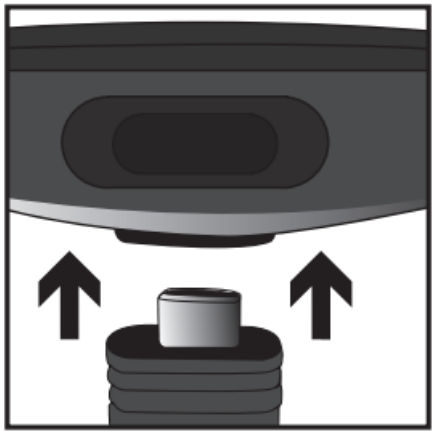


Fig. 3

Fig. 4

6. Do not pull, twist or kink the cables (Fig. 4).
7. Now attach the supplied gel pads to the electrodes.

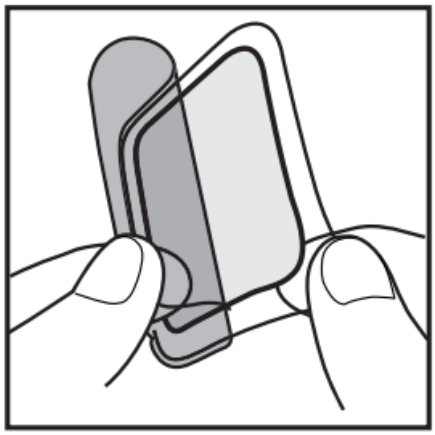


Fig. 5

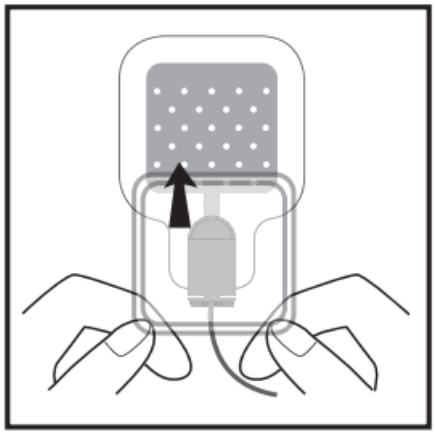


Fig. 6

Remove one of the protective films carefully (Fig. 5).
Carefully attach the gel pad to the electrodes and carefully detach the protective film (Fig. 6). Ensure that the edge of the gel pad does not protrude over the electrode. Applying gel pads slightly askew will not affect the function.
WARNING!
Remove the protective film slowly and carefully. Make sure that the self-adhesive gel fpad is not damaged, as damage or unevenness on the gel pad may cause skin irritation.

Use

5.1 Notes on use

- The device switches itself off automatically if it is not used for one minute (automatic switch-off). When the unit is switched on again, the LCD screen displays the menu selection, and the most recently used menu flashes.
- A brief acoustic signal is an output when a valid button is pressed. Two brief acoustic signals are output when an invalid button is pressed.
- You can pause the stimulation at any time by briefly pressing the ON/OFF ⏻ button. To continue the stimulation, briefly press the ON/OFF ⏻ button again and set the desired impulse intensity again.

5.2 Starting use
Step 1: Look for a suitable program from the program tables (see section “7. Program overview”).
Step 2: Place the electrodes on the desired area for treatment (for positioning suggestions see section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.

Step 3: Press the ON/OFF button to switch on the device.
Step 4: Press the MENU button to navigate through the menus and press the TENS / EMS / MASSAGE ENTER button to confirm your selection.
Step 5: Use the ˄/˅ setting buttons to select the program number you want and press the ENTER button to confirm your selection. At the start of the stimulation treatment, the impulse intensity of CH1 and CH2 is set to 00 by default. No impulses are sent to the electrodes yet.\

Step 6: Use the left and right ˄/˅ setting buttons for CH1 and CH2 to select the impulse intensity you want. The indicator for impulse intensity in the display changes accordingly. If the program is in a pause phase, the intensity cannot be increased.
Step 7: You can activate the heat function using the heat function button. The first press of the button activates the low heat level, the second button press activates the high heat level, and the third button press deactivates the heat function.

General information
If you wish to return to the previous selection menu, press the MENU button. By pressing and holding the ENTER button, you can skip individual setting steps and start directly with the stimulation treatment.

Keylock
Locks the buttons to avoid them being pressed unintentionally.

1. To activate the keylock, hold down the ENTER button until the symbol is visible in the display (approx. 3 seconds).
2. To deactivate the keylock, hold down the ENTER button again until the symbol disappears from the display (approx. 3 seconds).

Pausing use

You can pause the stimulation at any time by briefly pressing the ON/OFF button. To continue the stimulation, briefly press the ON/OFF button again and set the desired impulse intensity again.

Heat

In addition to the TENS/EMS/Massage programs, the EM59 Heat also offers two heat levels, which can be activated as required for all programs, see section 5.2 on usage. The heat emitted by the gel pads relaxes the muscle and improves circulation. You can activate the first level of the heat function by pressing the Heat button. Then wait a moment until the temperature stops increasing. If the temperature is too low for you, you can activate the second level of the heat function by pressing the Heat button again. If you would like to deactivate the heat function, you can do so by pressing the Heat button again If you want to use the heat function separately, without additional stimulation, proceed as follows:
Step 1: Position the electrodes in your desired target area. (See section “7.4 Information regarding the positioning of electrodes” for placement suggestions) and connect them with the device
Step 2: Press the ON/OFF button to switch on the device
Step 3: Press the Heat button in order to access the Heat settings
Step 4: Use the ˄/˅ setting buttons to select the treatment time you want and press the ENTER button to confirm your selection
Step 5: Press the Heat button again in order to switch on the first level of the heat function. Then wait a moment until the temperature stops increasing. If the temperature is too low for you, you can activate the second level of the heat function by pressing the Heat button again.

Program Overview

The digital EMS/TENS unit features a total of over 70 programs:

- 15 TENS programs
- 35 EMS programs
- 20 MASSAGE programs

In all programs, you can set the impulse intensity of both channels individually.
You can also set various parameters in TENS programs 13–15 and EMS programs 33–35 to adjust the stimulating effect to the application area.

7.1 TENS program table

Progr. no.	Practical areas for application, indications	Running time (min)	Possible electro de positions
1	Pain in upper limbs 1	30	12–17
2	Pain in upper limbs 2	30	12–17
3	Pain in lower limbs	30	23–27
4	Ankle pain	30	28
5	Shoulder pain	30	1–4
6	Pain in the back	30	4–11
7	Pain in bottom and back of thighs	30	22, 23
8	Pain relief 1	30	1–28
9	Pain relief 2	30	1–28
10	Endorphin effect (burst)	30	1–28
11	Pain relief 3	30	1–28
12	Pain relief – chronic pain	30	1–28

TENS programs 13–15 can be set individually (see section “8. Customisable programs”).

Note: See section “7.4 Information regarding the positioning of electrodes” for the correct electrode position.

7.2 EMS program table

Progr. no.	Practical areas for application, indications	Running time (min)	Possible electro de positions
1	Pain in upper limbs 1	30	12–17
2	Pain in upper limbs 2	30	12–17
3	Pain in lower limbs	30	23–27
4	Ankle pain	30	28
5	Shoulder pain	30	1–4
6	Pain in the back	30	4–11
7	Pain in bottom and back of thighs	30	22, 23
8	Pain relief 1	30	1–28
9	Pain relief 2	30	1–28
10	Endorphin effect (burst)	30	1–28
11	Pain relief 3	30	1–28
12	Pain relief – chronic pain	30	1–28

Progr. no.	Practical areas for application, indications	Running time (min)	Possible electrode positions
27	Tightening the shoulder muscles	30	1–4
28	Strengthening the lower back muscles	30	4–11
29	Maximizing the strength of the lower back muscles	30	4–11
30	Tightening the gluteal muscles	30	22
31	Strengthening the gluteal muscles	30	22
32	Maximizing the strength of the gluteal muscles	30	22

EMS programs 33–35 can be set individually (see section “8. Customisable programs”).

Note: See section “7.4 Information regarding the positioning of electrodes” for the correct electrode position.

7.3 MASSAGE program table

Progr. No.	Practical areas for application, indications	Running time (min)	Possible electrode positions
1	Tapping massage 1		
2	Tapping massage 2		
3	Tapping massage 3		
4	Kneading massage 1		

5	Kneading massage 2		
6	Pressure massage		
7	Relaxing massage 1		
8	Relaxing massage 2		
9	Relaxing massage 3		
10	Relaxing massage 4		
11	Spa massage 1		
12	Spa massage 2	20	1–28
13	Spa massage 3		
14	Spa massage 4		
15	Spa massage 5		
16	Spa massage 6		
17	Spa massage 7		
18	Relaxing massage 1		
19	Relaxing massage 2		

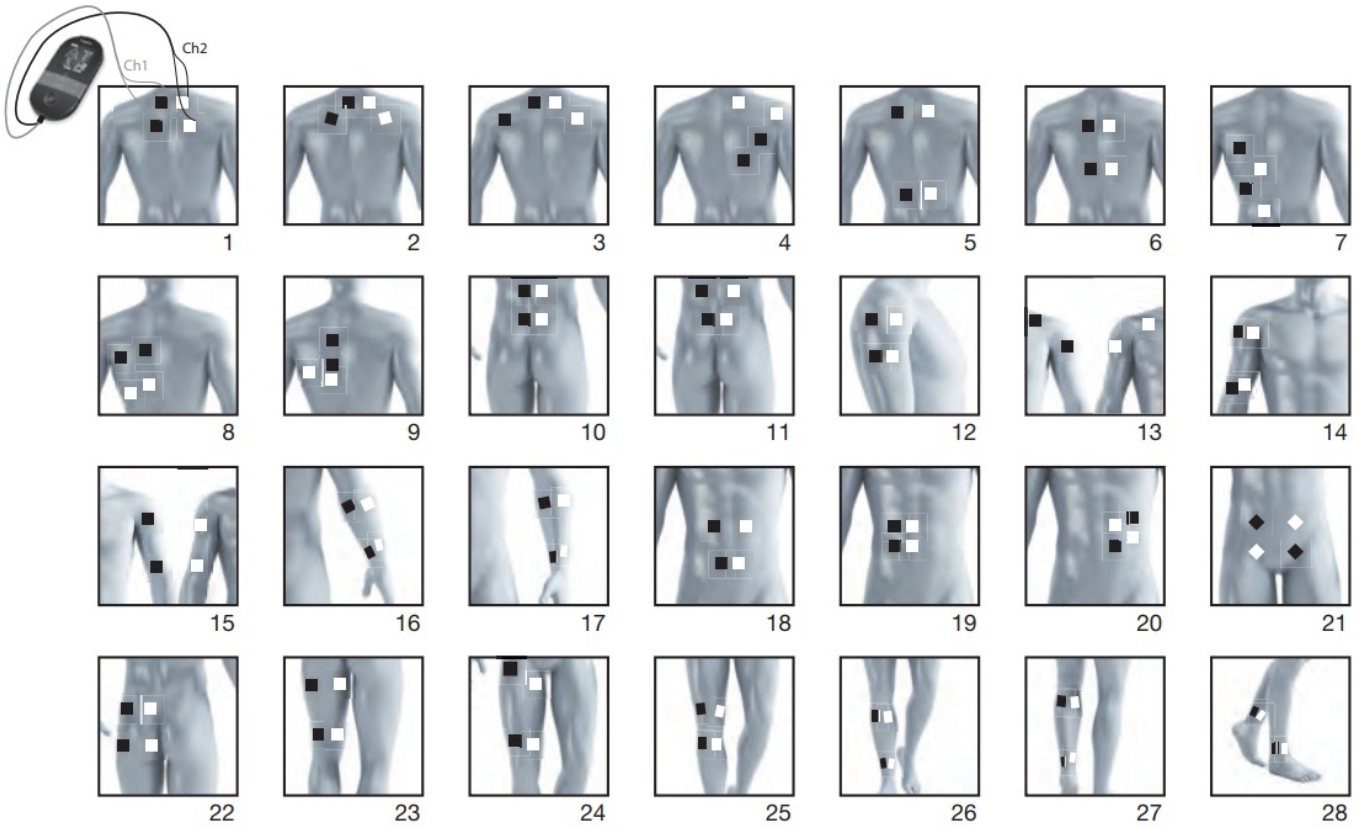
20	Relaxing massage 3		

Note: See section “7.4 Information regarding the positioning of electrodes” for the correct electrode position.

WARNING!

Do not apply the electrodes to the front wall of the chest, i.e. do not massage the large left and right pectoral muscles.

7.4 Information regarding the positioning of electrodes



It is fundamental to the intended success of electrostimulation applications that electrodes are sensibly positioned.

We recommend that you consult your doctor to establish the ideal electrode positions for your intended application area.

The figure on the display is intended as an initial aid to help you position the electrodes.

The following applies to the selection of electrode positions:

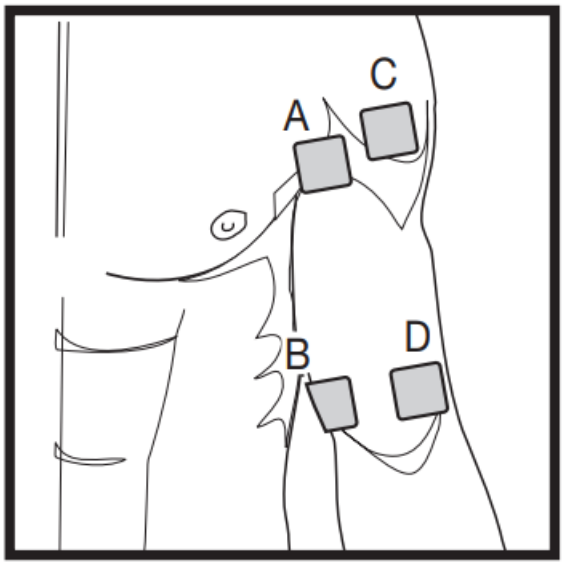
Electrode distance

The greater the distance between electrodes, the larger the stimulated tissue volume. This applies to the area and depth of the tissue volume. At the same time, however, the stimulation intensity of the tissue decreases the further the electrodes are apart. As a result, greater distances between electrodes mean a larger tissue volume is stimulated, but less intensively. Consequently, you must increase the impulse intensity to boost stimulation.

The following guidelines apply to the selection of the electrode distances:

- Sensible distance: approx. 5 –15 cm
- At distances below 5 cm, the unit primarily stimulates surface structures intensively
- At distances in excess of 15 cm, large areas and deep structures are stimulated very weakly

Relation between electrodes and muscle fiber structures



Adapt the current flow direction to the fiber structure of the muscle according to the muscle layer you would like to treat. If you are targeting superficial muscles, position the electrodes parallel to the fibre structure (A – B / C – D) and if you are targeting deeper layers of tissue, position the electrodes across the fibre structure. You can do this by positioning electrodes as crosses (i.e. diagonally), such as A – D /B –C.
As part of pain relief treatment (TENS) using the digital EMS/TENS unit and its 2 separately adjustable channels and 2 electrodes each, it is advisable either to position the electrodes of a channel so that the area affected by the pain is between the electrodes or to position one electrode directly on the area affected by the pain and the other electrode at a minimum distance of 2 – 3 cm.
You may use the electrodes of the second channel to simultaneously treat additional areas affected by pain or use them in conjunction with the electrodes of the first channel to
restrict the area affected by pain (position electrodes opposite).
In this case, we once again recommend positioning electrodes as crosses.
Tip for the massage function: always use all four electrodes for optimum treatment.
Use the electrodes on clean skin, which is preferably free from hair and grease, in order to prolong the life of the electrodes. If required, clean the skin with water and remove hair prior to treatment.
If an electrode should come loose during use, the impulse intensity of both channels is reduced to the lowest level. Apply the electrode again and reset the desired impulse intensity.

Customizable programs

(Applies for TENS 13–15, EMS 33–35)
The TENS 13–15 and EMS 33–35 programs can be customized according to your needs.
TENS 13 program
TENS 13 is a program that you can also customize. In this program, you can set the impulse frequency to between 1 and 150 Hz and the impulse width to between 80 and 250 µs.

1. Place the electrodes on the desired area for treatment (for positioning suggestions see section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.
2. Select the TENS 13 program as described in the section “5.2 Starting use” (step 3 to step 5).
3. Use the ˄/˅ setting buttons to select the impulse frequency you want and press the ENTER button to confirm your selection.
4. Use the ˄/˅ setting buttons to select your preferred impulse width and press the ENTER button to confirm.
5. Use the ˄/˅ setting buttons to select the treatment time you want and use the ENTER button to confirm.
6. Use the left and right ˄/˅ setting buttons **CH1** and **CH2** to select the impulse intensity you want.

TENS 14 program
The TENS 14 program is a burst program that you can also customize. Various impulse sequences run in this program. Burst programs are suitable for all areas of application to be treated with changing signal patterns (to

minimize the level of becoming accustomed to the treatment). In this program, you can set an impulse width of between 80 and 250 µs.

1. Place the electrodes on the desired area for treatment (for positioning suggestions see electrode positions in section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.
2. Select the TENS 14 program as described in the section “5.2 Starting use” (step 3 to step 5).
3. Use the ˄/˅ setting buttons to select your preferred impulse width and press the ENTER button to confirm.
4. Use the ˄/˅ setting buttons to select the treatment time you want and use the ENTER button to confirm.
5. Use the left and right ˄/˅ setting buttons CH1 and CH2 to select the impulse intensity you want.

TENS 15 program
TENS 15 is a program that you can also customize. In this program, you can set the impulse frequency to between 1 and 150 Hz.
The impulse width changes automatically during the stimulation treatment.

1. Place the electrodes on the desired area for treatment (for positioning suggestions see electrode positions in section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.
2. Select the TENS 15 program as described in the section “5.2 Starting use” (step 3 to step 5).
3. Use the ˄/˅ setting buttons to select the impulse frequency you want and press the ENTER button to confirm your selection.
4. Use the ˄/˅ setting buttons to select the treatment time you want and use the ENTER button to confirm.
5. Use the left and right ˄/˅ setting buttons CH1 and CH2 to select the impulse intensity you want.

EMS 33 program
EMS 33 is a program that you can also customize. In this program, you can set the impulse frequency to between 1 and 150 Hz and the impulse width to between 80 and 320 µs.

1. Place the electrodes on the desired area for treatment (for positioning suggestions see electrode positions in section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.
2. Select the EMS 33 program as described in the section “5.2 Starting use” (step 3 to step 5).
3. Use the ˄/˅ setting buttons to select the impulse frequency you want and press the ENTER button to confirm your selection.
4. Use the ˄/˅ setting buttons to select your preferred impulse width and press the ENTER button to confirm.
5. Use the ˄/˅ setting buttons to select the treatment time you want and use the ENTER button to confirm.
6. Use the left and right ˄/˅ setting buttons for CH1 and CH2 to select the impulse intensity you want.

EMS 34 program
EMS 34 is a program that you can also customize. In this program, you can set the impulse frequency to between 1 and 150 Hz and the impulse width to between 80 and 450 µs. You can also set the working time and pause time for this program to between 1 and 30 seconds each.

1. Place the electrodes on the desired area for treatment (for positioning suggestions see electrode positions in section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.
2. Select the EMS 34 program as described in the section “5.2 Starting use” (step 3 to step 5).
3. Use the ˄/˅ setting buttons to select the ‘on time’ you want and press the **ENTER** button to confirm your

selection..

4. Use the ˄/˅ setting buttons to select your preferred ‘off time’ and press the **ENTER** button to confirm.
5. Use the ˄/˅ setting buttons to select the impulse frequency you want and press the **ENTER** button to confirm your selection.
6. Use the ˄/˅ setting buttons to select your preferred impulse width and press the **ENTER** button to confirm.
7. Use the ˄/˅ setting buttons to select the treatment time you want and use the **ENTER** button to confirm.
8. Use the left and right ˄/˅ setting buttons **CH1** and **CH2** to select the impulse intensity you want.

EMS 35 program
The EMS 35 program is a burst program that you can also customize. Various impulse sequences run in this program. Burst programs are suitable for all areas of application to be treated with changing signal patterns (to minimize the level of becoming accustomed to the treatment). In this program, you can set the impulse frequency to between 1 and 150 Hz and the impulse width to between 80 and 450 µs. You can also set the working time and pause time for this program to between 1 and 30 seconds each.

1. Place the electrodes on the desired area for treatment (for positioning suggestions see electrode positions in section “7.4 Information regarding the positioning of electrodes”) and connect them to the device.
2. Select the EMS 35 program as described in section “5.2 Starting use” (step 3 to step 5).
3. Use the ˄/˅ setting buttons to select the ‘on time’ you want and press the **ENTER** button to confirm your selection..
4. Use the ˄/˅ setting buttons to select your preferred ‘off time’ and press the **ENTER** button to confirm.
5. Use the ˄/˅ setting buttons to select the impulse frequency you want and press the **ENTER** button to confirm your selection.
6. Use the ˄/˅ setting buttons to select your preferred impulse width and press the **ENTER** button to confirm.
7. Use the ˄/˅ setting buttons to select the treatment time you want and use the **ENTER** button to confirm.
8. Use the left and right ˄/˅ setting buttons for **CH1** and **CH2** to select the impulse intensity you want.

Doctor’s function

The Doctor’s function is a special setting to allow you to access your personal program even more easily and directly.
Your individual program settings are instantly recalled and activated when the device is switched on.
You may wish to adjust this individual program following advice from your doctor.
Setting the Doctor’s function

- Select your program and the corresponding settings as described in the section “5.2 Starting use”.
- At the start of the stimulation treatment, the impulse intensity of **CH1** and **CH2** is set to 00 by default. No impulses are sent to the electrodes yet. Before setting the desired impulse intensity using the intensity setting buttons, press and hold the **CH2** ˅ button for 5 seconds. Storage in the Doctor’s function is confirmed by a long acoustic signal.
  When you switch on the device again, the program you saved using the Doctor’s function is automatically opened directly.

Deleting the Doctor’s function

To clear the device again and to re-allow access to other programs, press and hold the CH2 ˅ button again for approx. 5 seconds. To do this, the impulse intensity of CH1 and CH2 must be set to 00.
Deletion of the Doctor's function is confirmed by a long acoustic signal.

Therapy memory

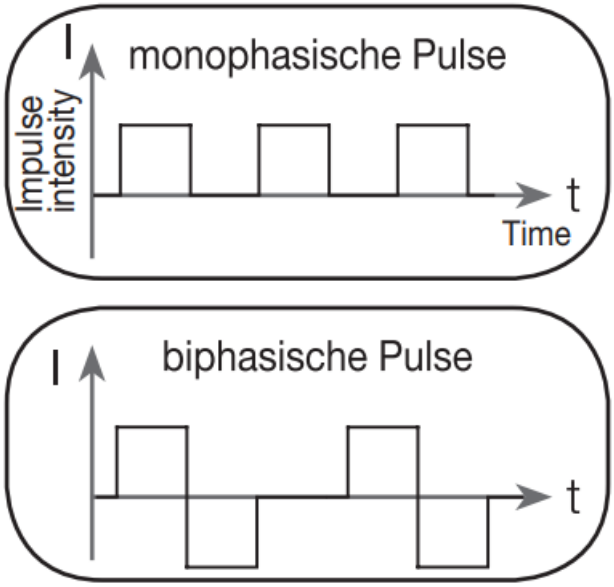
EM 59 Heat records the treatment time. To access the therapy memory, switch the device on using the ON/OFF button and press and hold the button CH2 ˄ for 5 seconds. The treatment time elapsed appears in the display. The top two numbers stand for minutes; the hours are shown below. To reset the treatment time, press and hold the CH2 ˅ button for 5 seconds. Press the "Menu" button to return to selecting a program, or switch the device off.
Info: Therapy memory cannot be accessed if the Doctor's function is activated.

Electric current parameters

Electrostimulation devices operate with the following electric current settings, which may affect the stimulation results differently, depending on the setting:

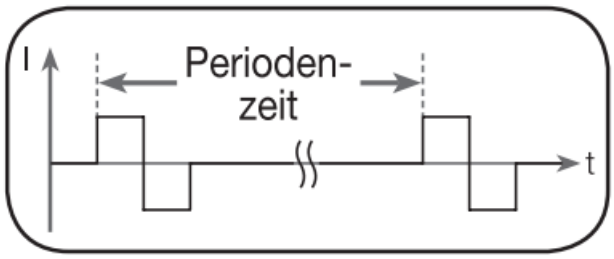
10.1 Impulse shape

This describes the time function of the electrical impulse.



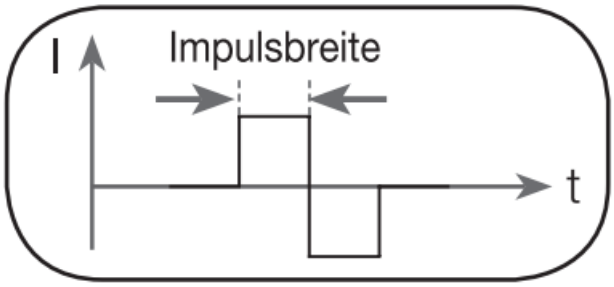
It distinguishes between monophasic and biphasic pulse currents. In monophasic pulse currents, the current flows in one direction and in biphasic pulse currents the electrical impulse alternates its direction.
The digital EMS/TENS unit only provides biphasic pulse currents as these relieve muscles, cause little muscle fatigue and provide safer application.

10.2 Impulse frequency



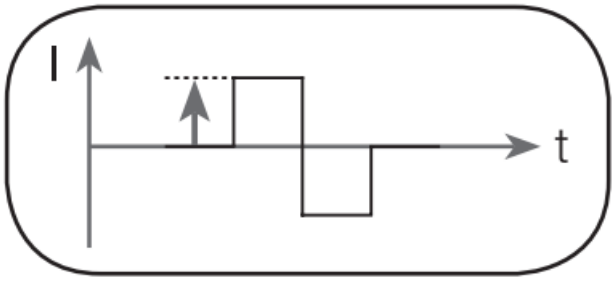
The frequency indicates the number of individual impulses per second and is displayed in Hz (Hertz). It can be calculated by determining the cyclic value for the time period. The relevant frequency determines which types of muscle fibers react best. Slow-reacting fibers react more easily to lower impulse frequencies of up to 15 Hz, whereas fast-reacting fibers only respond from approximately 35 Hz onwards. Impulses of approx. 45–70 Hz are linked with constant tension in the muscles and quicker fatigue. Higher impulse frequencies are therefore better to use for high-speed strength and maximum power training.\

10.3 Impulse width



This indicates the duration of an individual impulse in microseconds. The impulse width, therefore, determines, among other things, the penetration of the electricity, where usually larger muscle mass requires a larger impulse width.

10.4 Impulse intensity



Setting the intensity level depends on the individual sensitivity of each user and is determined by a variety of variables, such as the site of application, the blood supply to the skin, skin thickness, and the quality of the electrode contact. The settings should be effective but should never cause an unpleasant sensation, such as pain at the site of application. While a gentle tingling indicates sufficient stimulation energy levels, any setting that causes pain should be avoided.

When using the device for an extended period, you may need to adjust the intensity level, as your muscles may start to adapt to the impulse intensity.

10.5 Cycled impulse parameter variation

In many cases, it is necessary to cover the overall tissue structure at the site of application by applying several impulse parameters. In the digital EMS/TENS unit, this is achieved by the provided programs, which automatically make a cyclical impulse parameter change. This also prevents individual muscle groups at the site of application being affected by fatigue.

The digital EMS/TENS unit provides sensible default current parameter settings. With this, you can change the impulse intensity at any time during use. In 6 programs you can also set various parameters for stimulation yourself.

Cleaning and storage

Gel pads

- To ensure that the gel pads remain adhesive for as long as possible, clean them carefully with a damp, lint-free cloth or clean the underside of the electrodes under lukewarm, running water and pat dry with a lint-free cloth.

  Before cleaning with water, remove the connection cable from the device.
- Following treatment, stick the gel pads back onto the carrier foil of the gel pads.

Cleaning the device

- After use, clean the device with a soft, slightly damp cloth. If it is very dirty, you can also moisten the cloth with a mild soapy solution.
- Do not use any chemical or abrasive cleaning agents.

  Ensure that no water enters the device.

Reusing the device
Once it has been properly prepared, the device can be used again. Preparation includes replacement of the gel pads as well as cleaning of the surface of the device using a cloth moistened with a mild soapy solution
Storage

- Do not make sharp kinks in the connection cables and electrodes.
- Disconnect the connection cables from the electrodes.
- After use, stick the gel pads back onto the carrier foil of the gel pads.
- Store the device and accessories in a cool, well-ventilated space.
- Never place any heavy objects on the device.
- In order to achieve as long a battery service life as possible, fully charge the battery at least every 6 months.

Disposal

The empty, completely flat batteries should be disposed of through specially designated collection boxes, recycling points or electronics retailers. You are legally required to dispose of devices including batteries.

Note: The codes below are printed on batteries containing harmful substances: Pb = Battery contains lead, Cd = Battery contains cadmium, Hg = Battery contains mercury.


For environmental reasons, do not dispose of the device in the household waste at the end of its useful life. Dispose of the device at a suitable local collection or recycling
point in your country. Dispose of the device in accordance with EC Directive – WEEE (Waste Electrical and Electronic Equipment). If you have any questions, please contact the local authorities responsible for waste disposal.

Problems and solutions

The device does not switch on when the ON/OFF button is pressed. How to proceed?

1. Make sure that the battery is fully charged.
2. Charge the battery if necessary.
3. Contact Customer Services.

The electrodes do not stick to the body. How to proceed?

1. Clean the gel pads using a damp, lint-free cloth. The electrodes must be replaced if they still do not stick securely.
2. Clean the skin prior to any application; do not use skin care lotions or oils prior to treatment. Shaving may increase the life of electrodes.

There is no noticeable stimulation. How to proceed?

1. Press the ON/OFF button ⏻ to interrupt the program. Check that the connector cables are correctly connected to the electrodes.
   Ensure that the electrodes are in firm contact with the treatment area.
2. Ensure the connection plug is firmly connected to the device.

3. Press the ON/OFF button to restart the program.
4. Check electrode positions and ensure that the adhesive electrodes do not overlap.
5. Gradually increase the impulse intensity.
6. The battery is flat; please charge it.

The battery symbol is shown. How to proceed?
Charge the device, following the instructions from section 4.
You are experiencing an unpleasant sensation at the electrodes.
How to proceed?

1. The electrodes are not positioned correctly. Check their positions and re-position, if necessary.
2. The gel pads are worn. This may cause irritated skin, as even distribution of the current across the entire area is no longer guaranteed. For this reason, the electrodes should be replaced.

Skin in the treatment area turns red. How to proceed?
Immediately stop treatment and wait until your skin has returned to its normal condition. If the redness is under the electrode and disappears quickly, there is no risk – this is caused by the locally stimulated, increased blood flow.
However, consult your doctor before you continue treatment if the skin irritation persists and if it is accompanied by an itchy sensation or inflammation. This may be caused by an allergic reaction to the adhesive surface.
The device is getting too hot. How to proceed?
Switch to the lower heat level or switch the heat function off entirely.

Replacement parts and wearing parts

You can obtain the following replacement parts directly from Customer Services:

Designation	Item nu
8 x gel pads (45 x 45 mm)	Item 64

Technical specifications

Name and model	EM 59
Type	SL-880H
Output waveform	Biphasic rectangular pulses
Pulse length	50–450 µs
Pulse frequency	1–150 Hz
Output voltage	Max. 100 Vpp (500 ohms)
Output current	Max. 200 mApp (500 ohm)
Voltage supply	Lithium-ion rechargeable battery,2000mAh, 3.7V
Treatment time	Adjustable from 5 to 100 minutes
Intensity	Adjustable from 0 to 50
Heating levels	low (41 °C) ; high (43 °C)
Operating conditions	5°C–40°C (41°F–104°F) at a relative air humidity of 15–90%
Storage conditions	0°C–40°C (32°F–104°F) at a relative air humidity of 0–90%
Dimensions	Approx. 139 x 66 x 26 mm (including belt clip)
Weight	Approx. 125 g (including belt clip),
Height limit for use	3,000 m

Maximum permissible atmospheric pressure:……700–1,060 hPa
The serial number is located on the device.
Note: If the device is not used according to the instructions specified, perfect functionality cannot be guaranteed!
We reserve the right to make technical changes to improve and develop the product.
This device complies with European standards EN60601-1 and EN60601-1-2 (in compliance with IEC 61000-4-2, IEC 61000-4-3, IEC 61000-4-4, IEC 61000-4-5, IEC 61000-4-6, IEC 610004-8 and IEC 610004-11) and is subject to special precautionary measures with regard to electromagnetic compatibility. Please note that portable and mobile HF communication systems may interfere with this device.
More details can be requested from the stated Customer Service address or found at the end of the instructions for use.
This device meets the requirements of European Directive 93/42/EEC for medical devices, as well as those of the Medizinproduktegesetz (German Medical Devices Act).

Notes on electromagnetic compatibility

⚠ WARNING!

- The device is suitable for use in all environments listed in these instructions for use, including domestic environments.
- The use of the device may be limited in the presence of electromagnetic disturbances. This could result in issues such as error messages or the failure of the display/device.
- Avoid using this device directly next to other devices or stacked on top of other devices, as this could lead to faulty operation. If, however, it is necessary to use the device in the manner stated, this device as well as the other devices must be monitored to ensure they are working properly.

- The use of accessories other than those specified or provided by the manufacturer of this device can lead to an increase in electromagnetic emissions or a decrease in the device's electromagnetic immunity; this can result in faulty operation.
- Keep portable RF communication devices (including peripheral equipment, such as antenna cables or external antennas) at least 30 cm away from all device parts, including all cables included in the delivery. Failure to comply with the above can impair the performance of the device.

Warranty/service

Beurer GmbH, Söflinger Straße 218, 89077 Ulm, Germany (hereinafter referred to as "Beurer") provides a warranty for this product, subject to the requirements below and to the extent described as follows.
The warranty conditions below shall not affect the seller's statutory warranty obligations which ensue from the sales agreement with the buyer.
The warranty shall apply without prejudice to any mandatory statutory provisions on liability.
Beurer guarantees the perfect functionality and completeness of this product.
The worldwide warranty period is 5 years, commencing from the purchase of the new, unused product from the seller.
The warranty only applies to products purchased by the buyer as a consumer and used exclusively for personal purposes in the context of domestic use.
German law shall apply.
During the warranty period, should this product prove to be incomplete or defective in functionality in accordance with the following provisions, Beurer shall carry out a repair or a replacement delivery free of charge, in accordance with these warranty conditions.
If the buyer wishes to make a warranty claim, they should approach their local retailer in the first instance: see the attached "International Service" list of service addresses.
The buyer will then receive further information about the processing of the warranty claim, e.g. where they can send the product and what documentation is required.
A warranty claim shall only be considered if the buyer can provide Beurer, or an authorized Beurer partner, with
– a copy of the invoice/purchase receipt, and
– the original product.
The following are explicitly excluded from this warranty:
– deterioration due to normal use or consumption of the product;
– accessories supplied with this product are worn out or used up through proper use (e.g. batteries, rechargeable batteries, cuffs, seals, electrodes, light sources, attachments nebulizer accessories);
– products that are used, cleaned, stored, or maintained improperly and/or contrary to the provisions of the instructions for use, as well as products that have been opened, repaired, or modified by the buyer or by a service center not authorized by Beurer;
– damage that arises during transport between manufacturer and customer, or between the service center and customer;
– products purchased as seconds or as used goods;
– consequential damage arising from a fault in this product (however, in this case, claims may exist arising from product liability or other compulsory statutory liability provisions).
Repairs or exchanges in full do not extend the warranty period under any circumstances.

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Documents / Resources

	beurer EM 59 Digital TENS-EMS Unit with Heat Function [pdf] Instruction Manual EM 59 Digital TENS-EMS Unit with Heat Function, EM 59, Digital TENS-EMS Unit with Heat Function, Heat Function

References

- Beurer Gesundheitsratgeber
- Beurer Health Guide
- Beurer – Beurer North America