

4th generation of device

DENAS[®] PCM 2014

Operating Manual

Part I. Technical passport

English	<input checked="" type="radio"/>
Russian	<input type="radio"/>
French	<input type="radio"/>
German	<input type="radio"/>

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The company quality management system
is in compliance with ISO 9001 and ISO 13485

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Thank you for purchasing of the DENAS-PCM device.

In order to make the usage of the unit effective and safe, please, carefully read all sections of this manual.

1. SAFETY REGULATIONS



Information, contained in present operations manual, is important for your safety and proper use and maintenance of the device.



The device is safe for use, because it utilizes internal power source of low voltage, which is isolated from work part of the device (article of type B with body of type F).



The device must not be used for treatment of patients with implanted electronic devices (for example, pacemakers) and for treatment of patients who have individual electric current intolerance.



Use of the device in direct front projection of heart is prohibited.



Don't treat patient with any high-frequency electric device during stimulation; simultaneous use of the device and other electric equipment can cause burns and lead to possible damage of the device.



Work near short-wave and microwave equipment can bring to instability of output parameters of the device.



You must not connect to the device any other accessories, except external electrodes, produced by manufacturing company.



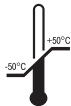
The device contains fragile components. Protect it from shocks.



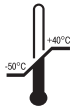
The device is not waterproof. Protect it from ingress of moisture.



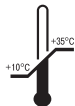
All works on maintenance and repair of the device must be executed by qualified specialists of the manufacturer.



Transport conditions: temperature from -50°C to $+50^{\circ}\text{C}$, relative air humidity from 30 to 93%, atmospheric pressure from 70 to 106 kPa (525 to 795 mm Hg).



Storage conditions: temperature from -50°C to $+40^{\circ}\text{C}$, relative air humidity from 30 to 93%, atmospheric pressure from 70 to 106 kPa (525 to 795 mm Hg.).



Operation conditions: temperature from +10°C to +35°C, relative air humidity from 30 to 93%, atmospheric pressure from 70 to 106 kPa (525 to 795 mm Hg).



Attention! *If the device has been stored at the temperature below 10°C, keep it in normal climate conditions for no less than 2 hours - before use.*



Utilization: All packaging materials are not environmentally harmful, they may be used repeatedly.



Separate collection of electrical and electronic equipment.
The device contains valuable materials, which can be used repeatedly after utilization with consideration of requirements of environmental protection. They shall be delivered to specially intended for this purpose places (consult with corresponding services in your district) for collection and processing.

2. PURPOSE

Universal transcutaneous electrostimulator DENAS-PCM is intended for application of system-regulating impact on physiological systems of the body and for the treatment of functional disorders under wide range of diseases. Dynamic electroneurostimulation is executed through impulses of electric current on biologically active points and zones of the human body. The device provides possibility of selection of individual treatment program, as well as already prepared for use programs. The device has a inbuilt electrodes and a socket for connection of external therapeutic electrodes *.

The device DENAS-PCM is intended for use in hospitals and in home conditions in accordance with the instructions of a physician.

* You can only connect to the device those external electrodes, which are produced by the company-manufacturer (see Appendix 1).

3. SPECIFICATIONS

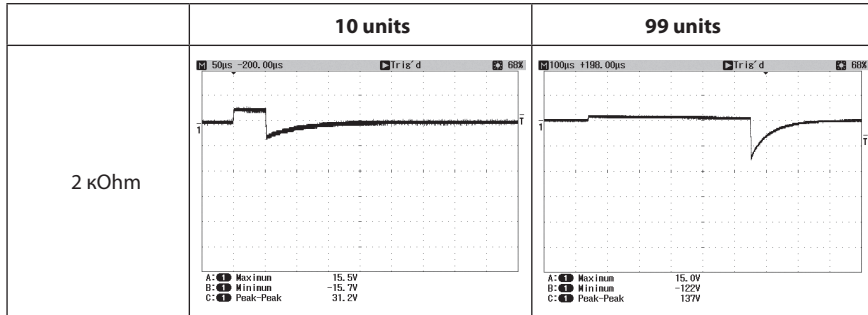
3.1. Electric impulse of the device have following output parameters:

3.1.1. With load = 20 kOhm

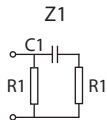
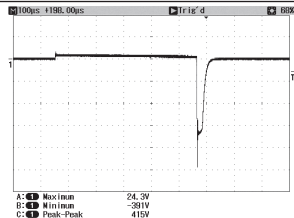
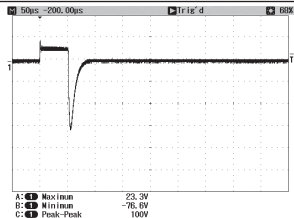
Power (in nominal units)	Minimum*	Maximum
	1	99
Amplitude of 1 st phase, V	≤ 40	≤ 40
Length of 1 st phase, uS	6 ± 25%	530 ± 25%
Amplitude of 2 nd phase, V	9 ± 25%	350 ± 25%

* *These parameters apply to pulse treatment modes and are not subject to the test pulses. Measurement parameters were carried out in "Forced therapy."*

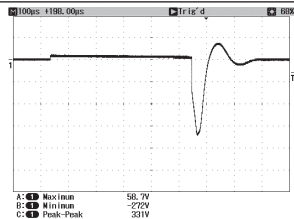
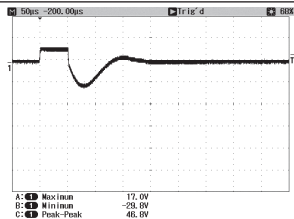
10 **3.1.2.** Dependence of impulse form from load resistance at average and maximum power levels.

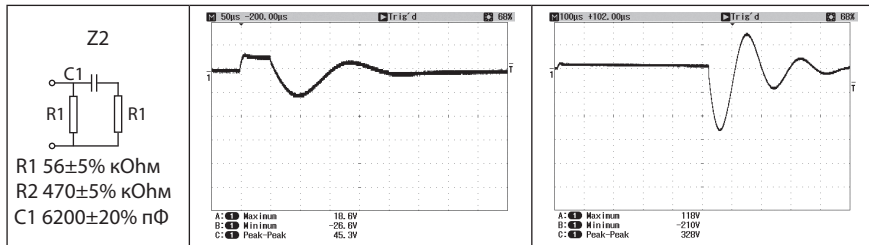


20 kOhm



R1 $82 \pm 5\%$ kohm
R2 $2 \pm 5\%$ kohm
C1 $3300 \pm 20\%$ nF





3.2. The device provides possibility of setting of following frequencies of impulses, Hz:

3.2.1. Range 1:

— 10 ± 1 , including modes «Programms», MED (prophylaxis) and «Screening»;

- 20 ± 1 ; 60 ± 2 ; 77 ± 2 ; 77 ± 2 and 10 ± 1 , 77 ± 2 and 10 ± 1 modulated by frequency $2\pm0,1$ (mode «77 10»);
- 77 ± 2 with modulation by amplitude (mode «77AM»); 140 ± 3 ; 200 ± 3 .

3.2.2. Range 2: from 1,0 to 9,9 with increment $0,1\pm0,05$.

3.3. Maximum current consumption (under supply voltage of 3 V - no more than 300 mA.

3.4. Electrical power supply: batteries of type LR6/AA, 2 pcs., with voltage $1,5\pm0,45$ V. It is allowed to use corresponding accumulator batteries with nominal current of 1,2 V*.

3.5. Weight of the device is no more than 0,35 kg.

3.6. Dimensions of the device are no more than 165 x 65 x 65 millimeters.

* *Operations procedure (types of battery rechargers, methods of recharge) are described in instructions manual for accumulator batteries. Running time of the device under use of accumulators depends on characteristics of accumulators.*

- 14 **3.7.** The device automatically switches off not later than in 10 min after the last touch of any of its buttons (except button ①) or after the last contact of the electrodes with patient' skin surface.

3.8. Electromagnetic emission

Test	Compliance with IEC 60601-1-2	Terms of use
RD radiation CISPR 11	Class B, Group 1	Electrosimulator DENAS-PCM is suitable for use in all houses including residential use.

3.9. Resistance to RF-radiation

Test	IEC 60601-1-2 test conditions	Acceptable level
IEC 61000-4-6	3 Vrms from 150 kHz to 80 mHz	3 Vrms
IEC 61000-4-3	3 V/m from 80 MHz to 2,5 GHz	3 V/m

3.10. Resistance to electromagnetic fields

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Test	Test level	Level of compliance	Terms of use
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV impact	± 4 kV contact ± 8 kV impact	Floor should be made from wood, concrete, or ceramic tiles. If floor is covered with synthetic material, the relative humidity should be at least 40%.
Magnetic fields IEC 610004-8	3 A/m	3 A/m	Parameters of magnetic fields should be at levels, typical for commercial or hospital buildings

16 **3.11. Recommendations on determination of required distance between electrostimulator DENAS-PCM and radio equipment**

Rated maximum output power of Transmitter P (W)	Radiated frequency and formula for determination of distance d (m)		
	150 khz - 80 MHz d = 1,2VP	150 khz - 800 MHz d = 1,2VP	800 MHz - 2,5 HHZ d = 2,3VP
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

3.12. Terms of use

3.12.1. Connection of external electrodes, not allowed by manufacturer (including change of length of cable, type of cable, construction of electrode) can lead to increase of electromagnetic radiation level and/or decrease of device resistance to external impacts.

3.12.2. The device DENAS-PCM uses electromagnetic energy only for internal functions, and due to this fact, radiation of the device is minimal and shall not impact nearest electronic equipment. The device DENAS-PCM shall not be used alongside other equipment. If such action is deemed necessary, then DENAS-PCM and other equipment shall be checked for correctness of operation under joint use.

3.12.3. Recommended user activities

Electrostatic discharge (ESD). The user shall not use clothes, made of synthetic materials.

RF radiation. The personnel (user) shall take following safety measures: minimal distance to portable means of communication (cellular phones, cordless phones) shall be approximately 3 meters, in case when output power of the devices exceeds 2 W.

4. COMPLETE SET

Item	Quantity
Electrostimulator Denas-PCM	1
Operations manual Part 1 and 2	1
Consumer container	1
Battery LR6/AA	2

5. DEVICE ASSEMBLY

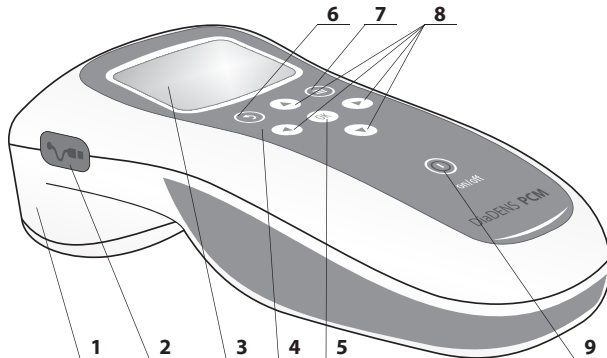
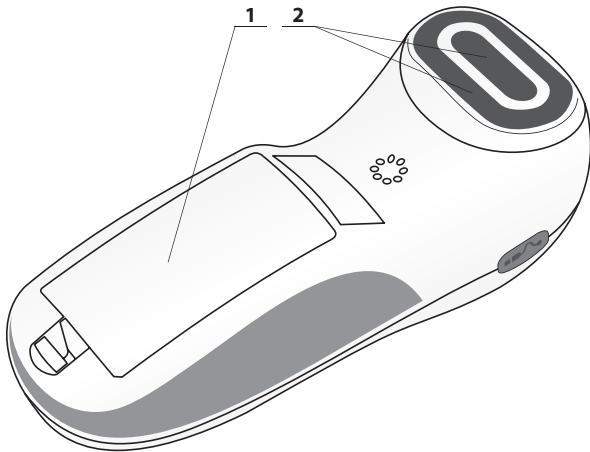


Fig. 1. The device Denas-PCM (top view)

1. Body.
2. Socket for connection of external electrodes (closed with cover).
3. Display — liquid-crystal display.
4. Keyboard.
5. Button for selection of menu item (OK).
6. Button of return to previous menu item (↶).
7. Button of return to main menu (≡).
8. Buttons for navigation in device's menu (▲▼◀▶).
9. Button for switching the device on an off (⏻).



**Fig. 2. The device Denas-PCM
(bottom view)**

1. Cover of battery cabinet.

2. Inbuilt electrode.

You can connect to the device external therapeutic electrodes of models, produced by company-manufacturer (see Appendix 1).

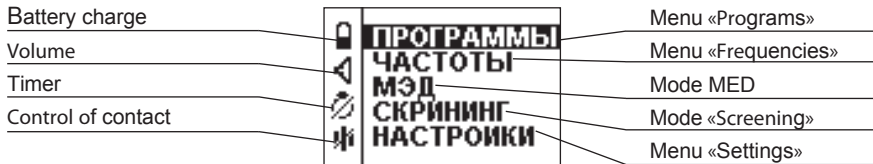


Attention! *External therapeutic electrodes can be used only in modes «Programs» or «Frequencies».*

To improve contact before use of external electrode you can rub the skin in area of impact with sponge, wetted with water or apply small amount of cream «Malavtilin» (you can begin application after complete absorption of the cream).

5.1. Appearance of display in different modes

5.1.1. Symbols and items of main menu of the device

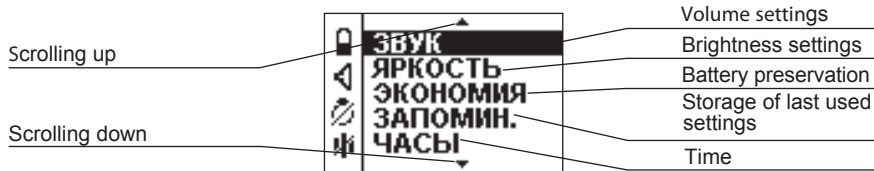


5.1.2. Items of menu «Programs»



5.1.2. Items of menu «Settings»

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6. OPERATING PROCEDURES

6.1. Switching the device on

Press button ①. After the sound signal and logo, the device goes to statuses:

- main menu, if function «Storage of last settings» has been switched off;
- to the mode, in which the device has been switched off, if function «Storage of last settings» has been switched on.

6.2. Selection of mode or function

Using navigation buttons, select required mode, function or value, press button ② to open them.

6.3. Return to menu

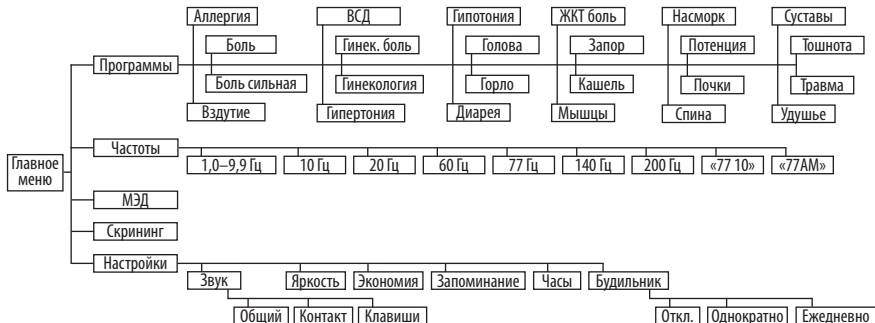
To show the menu of above level, use button ③. To return to main menu of the device, press button ④.

6.4. Switching the device offff

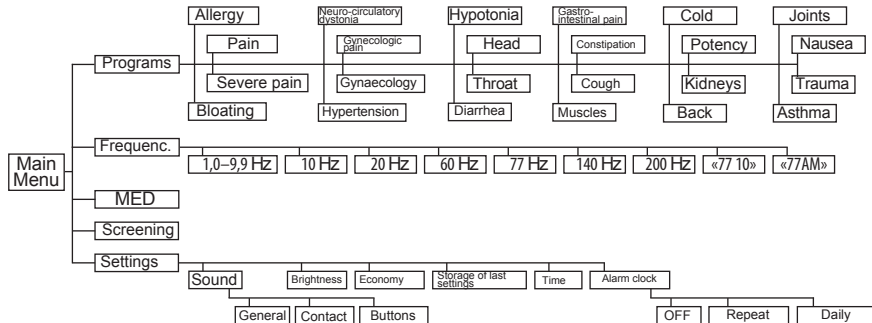
Press button ①, and hold it for approximately 3 seconds. The device will show you message “Доброго здоровья” (in English - «Good Health») and after sound signal the device will switch off.

7. USING THE MENU

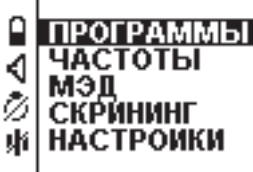
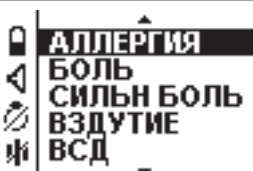
7.1. Structure of the menu (in Russian)


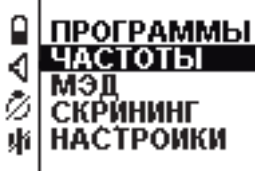




Structure of the menu (English translation)

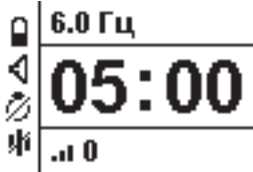
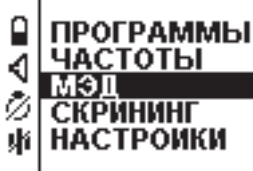


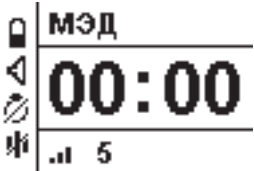

7.2. Selection of menu item

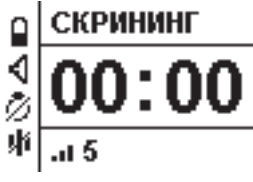
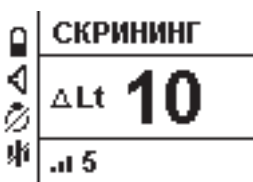
Menu «Programs»		
1.	With the help of navigation buttons ▲ and ▼ select in main menu «Programs» and confirm your choice by pressing the button OK	
1.1	In this section find required program with buttons ▲ and ▼ . Make a selection and press button OK	

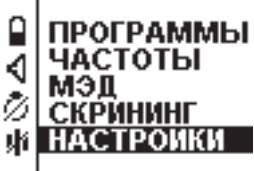

1.1.1	<p>The device will start chosen mode of operation, meanwhile, power of the device will be set to minimal level. Readjust power with button ◀ and ▶</p> <p>Methods of operation in mode «Programs» are described in detail in «Usage instruction», part II</p>	
Menu «Frequencies»		
2.	<p>With the help of navigation buttons ▲ and ▼ select in main menu «Frequencies» and confirm your choice by pressing the button OK</p>	



2.1	<p>The device will start chosen mode of operation, meanwhile, power of electrostimulation of the device will be set to minimal</p> <p>In this section find required frequency of impact with button ▼ and ▲ , make a selection and press button OK</p>	
2.1.1	<p>In case of selection of infra-low frequency, the device will present you the menu of infra-low frequency adjustment. With the help of navigation buttons select required frequency (first integral part, then – decimal) and press button OK to confirm your choice.</p>	



2.1.2	<p>The device will start chosen mode of operation, meanwhile, power of electrostimulation of the device will be set to minimal level. Readjust power with buttons ◀ and ▶.</p> <p>Methods of operation in mode «Frequencies» are described in detail in «Usage instruction », part II</p>	
Minimum effective dose (MED)		
3	<p>With the help of navigation buttons ▲ and ▼ select in main menu mode «MED» and confirm your choice by pressing the button OK</p>	

3.1	<p>The device will show mode MED, meanwhile, power of the device will be set to minimal level. Readjust power with buttons ▲ and ▼</p> <p>Methods of operation in mode «MED» are described in detail in «Usage instruction», part II</p>	 <p>The screen displays the MED mode, a timer set to 00:00, and a signal strength indicator showing 5 bars.</p>
Diagnostics mode “Screening”		
4	<p>With the help of navigation buttons ▲ and ▼ select in main menu «Screening» and confirm your choice by pressing the button OK</p>	 <p>The screen displays the main menu with options: ПРОГРАММЫ, ЧАСТОТЫ, МЭД, СКРИНИНГ (highlighted), and НАСТРОЙКИ.</p>

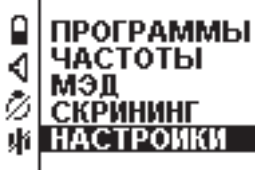

4.1	<p>The device will show mode «Screening», meanwhile, fixed power of electrostimulation will be set for the purpose of safety. The redjust power is not available in mode «Screening». Methods of operation in mode «Screening» are described in detail in «Usage instruction », part II</p>	<div data-bbox="1308 122 1765 453">  <p>СКРИНИНГ</p> <p>00:00</p> <p>5</p> </div> <div data-bbox="1308 464 1765 795">  <p>СКРИНИНГ</p> <p>ΔLt 10</p> <p>5</p> </div>
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Menu "Sound settings"		
5	With the help of navigation buttons ▲ and ▼ in main menu select item «Settings» and confirm your choice by pressing button OK	 <p>ПРОГРАММЫ ЧАСТОТЫ МЭД СКРИНИНГ НАСТРОЙКИ</p>
5.1	With the help of buttons ▲ and ▼ in menu «Settings» select item «Sound» and confirm your choice by pressing button OK	 <p>ЗВУК ЯРКОСТЬ ЭКОНОМИЯ ЗАПОМИН. ЧАСЫ</p>

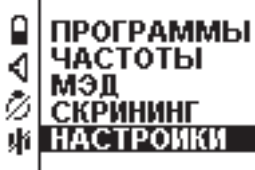

5.1.1	<p>The device will show the menu «Sound settings»: general sound of the device, sound under contact with skin, sound under pushing keyboard buttons. With the help of buttons ▲ and ▼ select one of adjustable parameters and confirm your choice by pressing button OK</p>	
5.1.1.1	<p>For adjustment of general sound of the device, 3 sound levels are provided: mute, minimum and maximum, indicated by digits 0.1 and 2 correspondingly. With the help of buttons ▲ and ▼ select one of sound levels and confirm your choice by pressing button OK. When pressing buttons ↶ or ≡ instead of button OK and also when turning off the device the sound will be returned to the previous settings.</p> <p>Attention! Sound signals are generated with consideration of specified sound level. Under selected sound level "mute",</p>	



	<i>sound signals will not be generated.</i>	
5.1.2.1	<p>Setting of sound signal under contact with skin: contact of electrodes with skin can be confirmed by sound signal. With the help of buttons ▲ and ▼ switch this function on or off and confirm your choice by pressing button OK.</p> <p>When pressing buttons ⤵ or ≡ instead of button OK and also when turning off the device the sound will be returned to the previous settings.</p>	 <div> КОНТАКТ ВКЛ. ВЫКЛ. </div>
5.1.3.1	<p>Menu navigation can be accompanied by sound signals. With the help of buttons ▲ and ▼ switch this function on or off and confirm your choice by pressing button OK.</p> <p>When pressing buttons ⤵ or ≡ instead of button OK and also when turning off the device the sound will be returned to the previous settings.</p>	 <div> КЛАВИШИ ВКЛ. ВЫКЛ. </div>



Menu "Brightness" (display brightness settings)

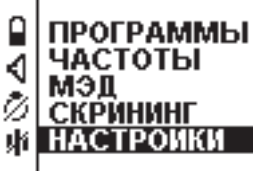

5	With the help of navigation buttons ▲ and ▼ in main menu select item «Settings» and confirm your choice by pressing button OK	 <p>ПРОГРАММЫ ЧАСТОТЫ МЭД СКРИНИНГ НАСТРОЙКИ</p>
5.2	With the help of buttons ▲ and ▼ in menu «Settings» select item «Brightness» and confirm your choice by pressing button OK	 <p>ЗВУК ЯРКОСТЬ ЭКОНОМИЯ ЗАПОМИН. ЧАСЫ</p>



5.2.1	<p>Adjustment of display brightness: the device provided 5 levels of brightness of display, from minimal (1st level of brightness) to maximal (5th level of brightness), which can be selected by pressing buttons ▲ and ▼ . Confirm your choice by pressing button OK . When pressing buttons ↶ or ≡ and also when turning off the device the brightness will be returned to the previous settings.</p> <p>Attention! Increase of brightness leads to increase of current consumption and early replacement of batteries. Use of minimal level of brightness will allow to use batteries for a long time.</p>	
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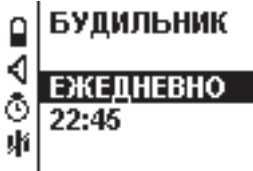
Menu "Economy"		
5	With the help of navigation buttons ▲ and ▼ in main menu select item «Settings» and confirm your choice by pressing button OK	 <p>ПРОГРАММЫ ЧАСТОТЫ МЭД СКРИНИНГ НАСТРОЙКИ</p>
5.3	With the help of buttons ▲ and ▼ in menu «Settings» select item «Economy» and confirm your choice by pressing button OK	 <p>ЗВУК ▲ ЯРКОСТЬ ЭКОНОМИЯ ЗАПОМИН. ЧАСЫ ▼</p>

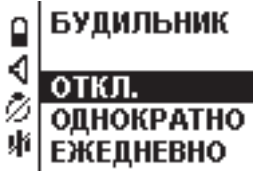
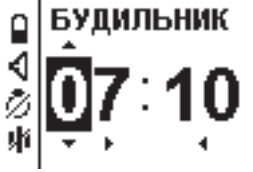
5.3.1	<p>The device will show the menu «Economy», which allows to change the level of economy battery: go to mode of reduced energy consumption at the expense of switching off highlighting (independent of selected brightness level). With the help of buttons ▲ and ▼ switch this function on or off and confirm your choice by pressing button OK . When pressing buttons ↶ or ≡ and also when turning off the device the economy battery will be returned to the previous settings.</p>	 <div> ЭКОНОМИЯ ВКЛ. ВЫКЛ. </div>
Menu “Storage” (storage of last used settings)		
5	<p>With the help of navigation buttons ▲ and ▼ in main menu select item «Settings» and confirm your choice by pressing button OK</p>	 <div> ПРОГРАММЫ ЧАСТОТЫ МЭД СКРИНИНГ НАСТРОЙКИ </div>

5.4	<p>With the help of buttons ▲ and ▼ in menu «Settings» select item «Storage» and confirm your choice by pressing button OK</p>	
5.4.1	<p>The device will show the menu «storage». This item allows to change status of function «storage of last used settings». If function is switched on, then the device will switch on in that therapy mode, in which it has been switched off. If the function is switched off, then the device will show main menu. With the help of buttons ▲ and ▼ switch this function on or off and confirm your choice by pressing button OK. When pressing buttons ↶ or ≡ and also when turning off the device the “storage” will be returned to the previous settings.</p>	

Menu "Time" (settings of time)		
5	With the help of navigation buttons ▲ and ▼ in main menu select item «Settings» and confirm your choice by pressing button OK	 <p>ПРОГРАММЫ ЧАСТОТЫ МЭД СКРИНИНГ НАСТРОЙКИ</p>
5.5	With the help of buttons ▲ and ▼ in menu «Settings» select item «Time» and confirm your choice by pressing button OK	 <p>ЗВУК ЯРКОСТЬ ЭКОНОМИЯ ЗАПОМИН. ЧАСЫ</p>

5.5.1	<p>The device allows to adjust current time, to do so, with the help of buttons ◀ and ▶ select digit, which you want to adjust, and press buttons ▲ and ▼ to change digits according to actual value and confirm your choice by pressing button OK. When pressing buttons ↻ or ≡ and also when turning off the device the current time will not be changed.</p>	
Menu "Alarm clock" (alarm settings)		
5	<p>With the help of buttons ▲ and ▼ in main menu select item «Settings» and confirm your choice by pressing button OK</p>	

5.6	<p>With the help of buttons ▲ and ▼ in menu «Settings» select item «Alarm clock» and confirm your choice by pressing button OK</p>	
5.6.1	<p>The device will show menu of alarm settings: adjustment of time of alarm, adjustment of alarm periodicity. With the help of buttons ▲ and ▼ in menu select one of adjustable items and confirm your choice by pressing button OK</p> <p>Attention! The alarm goes off only if the unit is off.</p>	

5.6.1.1	<p>Adjustment of alarm periodicity: with the help of buttons ▲ and ▼ select one of variants of periodicity: off, single, daily. Confirm your choice by pressing button OK . When pressing buttons ↶ or ≡ and also when turning off the device the current settings of alarm will not be changed.</p>	 <p>БУДИЛЬНИК</p> <p>ОТКЛ.</p> <p>ОДНОКРАТНО</p> <p>ЕЖЕДНЕВНО</p>
5.6.2.1	<p>Setting of alarm time: for adjustment of time, with the help of buttons ◀ and ▶ select required area, and with buttons ▲ and ▼ change digits according to required value and confirm your choice by pressing button OK . When pressing buttons ↶ or ≡ and also when turning off the device the current settings of alarm will not be changed.</p>	 <p>БУДИЛЬНИК</p> <p>07:10</p>

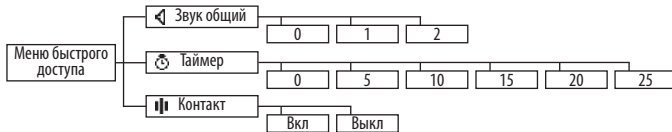
7.3. Menu of quick access



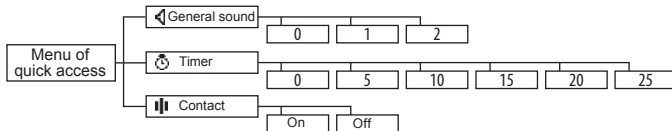
Attention! *Settings of the quick access menu are available only in mode of stimulation («Programs», «Frequencies», MED and «Screening»).*



Symbols of this menu are situated at the left part of every display, except welcome display and good bye display. Selection one of such symbols with the help of buttons ▲, ▼ and confirmation of choice by button OK, shows to user menu of adjustment of one of these parameters. Adjust them with the help of buttons ▲, ▼ and confirm by button OK. When pressing buttons ↶ or ≡ and also when turning off the device the current settings of the device will not be changed.


Structure of menu of quick access (in Russian)




Structure of menu of quick access (in English)



Menu "General sound"		
1	<p>This menu provides possibility of quick access to setting of general sound level of the device. With the help of navigation buttons ▲, ▼ if you are in menu of stimulation modes («Programs», «Frequencies», MED or «Screening»), select symbol of menu «General sound» and confirm your choice by pressing button OK</p>	
1.1	<p>The device will show menu of adjustment of general sound level - 3 sound levels are provided: mute, minimum and maximum, indicated by digits 0, 1 and 2 correspondingly. With the help of buttons ▲ and ▼ select one of sound levels and confirm your choice by pressing button OK. The chosen level will be saved for all modes of device. When pressing buttons ⏪ or ⏩ and also when turning off the device the current settings</p>	

	<p>of the device will not be changed.</p> <p>Attention! Sound signals are generated with consideration of specified sound level. Under selected sound level «Mute», sound signals will not be generated.</p>	
Menu «Timer (available only in mode «Frequencies»		
2	<p>Function «Timer» is necessary in cases, when it is impossible to control time of impact (electrostimulation of hard-to-reach places) or when time of stimulation is clearly specified. After activation of this function, time of stimulation will be counted down. In case when the function is switched off, maximum time of one session - 30 minutes. Settings of function «Timer» is available only in mode «Frequencies». Time is automatically saved for modes: «Programs», MED, «Screening».</p>	

	Choose required frequency in menu "Frequencies". With the help of navigation buttons ▲, ▼ select symbol of menu «Timer» and confirm your choice by pressing button OK	
2.1	<p>The device will show menu item "Timer". With the help of navigation buttons ▲ and ▼ set required time of timer – from 0 to 25 minutes (discreteness – 5 minutes). Confirm your choice by pressing the button OK. When pressing button ⌚ the current settings of timer will not be changed. In case of setting 0 minutes, function is considered switched off and in modes of stimulation time will be counted in regular mode.</p> <p>Attention! Time set in menu "Timer" is relevant only for current therapy session.</p>	










Menu “Contact” (function “Forced therapy” is available only in modes “Programs” and “Frequencies”)

3

Menu «Contact» allows to manage «Forced therapy» function, which forms electrical impulses independently of presence and quality of electrodes contact with skin. When function “Forced therapy” is switched on, the device doesn’t sound signal about loss of electrodes contact with skin. Function «Forced therapy» is switched on automatically under connection to device of external electrodes. Choose required mode “Programs” or “Frequencies”, confirm your choice by clicking the button

With the help of navigation buttons ▲ and ▼, select symbol of menu «Contact» and confirm your choice by pressing button



3.1	<p>The device will show menu «Contact» . With the buttons  and  switch this function on or off and confirm your choice by pressing button . When pressing button  the current settings of function “Forced therapy” will not be changed.</p>	
	<p>Indications of status of contact:</p> <ul style="list-style-type: none">  illuminated constantly – there is contact of inbuilt electrodes with skin, function of “Forced therapy” is switched off;  there is no contact of inbuilt electrodes with skin, it is recommended to wet your skin slightly for contact or switch “Forced therapy” on  blinks – function “Forced therapy” is switched on 	

8. TECHNICAL MAINTENANCE

8.1. Daily technical maintenance should include the following:

- external examination of the device;
- disinfection of electrodes.

For purposes of disinfection use standard disinfection means (such as 3% solution of hydrogen peroxide) and soft napkins without nap to clean the electrodes.

8.2. Check of serviceability in accordance with instructions, specified in Part 7.

8.3. If you will not use the device for a long period, remove the power source from its compartment (section 9).

8.4. If the battery symbol flashes on the display and there is a pulsing sound signal, change the battery (section 9).

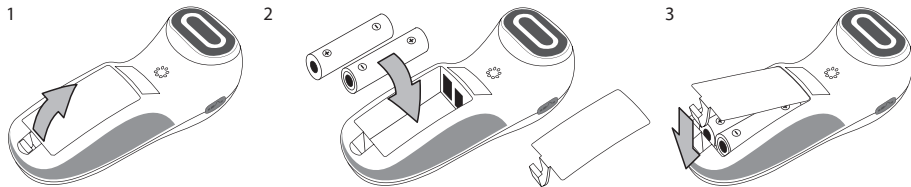


Attention! *If power source is absent for more than 10 seconds, all individual settings of the user, set reminders, information on current date and time will be deleted.*

9. METHOD OF REPLACEMENT OF BATTERIES

Change of power source:

- open battery compartment (1) and take batteries from it;
- put new batteries into the device*, with consideration of polarity (2);
- close battery compartment (3).



** Use only those batteries that are suitable for this device — type LR6/AA, voltage rating 1,5 V, or appropriate accumulators with nominal voltage 1,2 V.*

10. TROUBLESHOOTING LIST

55

Trouble	Possible reason	Method of elimination
1) The device does not switch on when you press button ⓘ	There are no batteries	Set new batteries (see section «Method of replacement of batteries»)
	Voltage of batteries is less than 2,1 V	Change batteries (see section «Method of replacement of batteries»)
2) Under switching on, the device emits sound signals and switches off	Voltage of batteries is less than 2,1 V	Change batteries (see section «Method of replacement of batteries»)
	Period of time between switching on of the device and its subsequent switching on is less than 3 seconds	Wait 3 seconds after switching off the device and switch it on again

3) The device does not start stimulation under contact of inbuilt electrodes with skin	Mode of stimulation is not selected	Go to menu «Programs» or «Frequencies» and select required mode of stimulation
	Insufficient area of contact of electrode with skin	Tightly apply inbuilt electrode to skin. If necessary, slightly wet skin before contact
	Power level is zero	Increase power level
4) The device does not emit sound signals (under switching on of mode, change of power level, end of work and so on)	Sound is switched off	Increase volume
5) The device does not start to stimulate under use of external electrodes	Mode of stimulation is not selected	Go to menu «Programs» or «Frequencies» and select required mode of stimulation
	Insufficient area of contact of electrode with skin	Tightly apply external electrode to skin. If necessary, slightly wet skin before contact
	Power level is zero	Increase power level

6) Highlighting of indicator is not working	Function «Economy» is switched on	Switch off function «Economy». Go to section Settings → Economy
7) The device does not shut down under absence of contact of electrode with skin or nonuse of buttons for more than 10 minutes	Function «Forced therapy» is switched on	Switch off function «Forced therapy»
8) The device switches off or symbol of battery flashes and the device emits discontinuous signal	Voltage of batteries is less than 2,1V	Change batteries (see section «Method of replacement of batteries»)

9) The device does not switch on at the time, specified by the function «Alarm clock»	Active reminders are absent	In section «Alarm clock» and set reminders
	Voltage of batteries is less than 2,1 V	Change batteries (see section «Method of replacement of batteries»)
10) The device switches off spontaneously	Voltage of batteries is less than 2,1 V	Change batteries (see section «Method of replacement of batteries»)
11) «Quick consumption» of batteries	Off-grade batteries	Use high-quality batteries (alkaline batteries are recommended) or accumulators of corresponding unit size with voltage of no more than 1,5 V
	Level of brightness is maximal	Decrease level of brightness. Go to section Settings → Brightness
	Function «Economy» is switched off	Switch on function «Economy». Go to section Settings → Economy



Attention! Other troubles must be eliminated by the manufacturer or at the service centers of the manufacturer.

11. MANUFACTURER'S WARRANTY

11.1. Operating time of the device — 5 years.

Under observance of operation regulations, actual operation time can significantly exceed official one.

11.2. Warranty period for the device — 12 months from the date of sale.

11.3. The seller (manufacturer) or organization, which acts as a seller (manufacturer) on the basis of contract with it, is not responsible for the defaults should they occur after the disposal of the device as a result of:

- 1) failure on the part of the consumer to comply with the rules of transportation, storage, care and operation, provided by the present manual;
- 2) mechanical damages;
- 3) actions of the third party;
- 4) force-majeure.

60 **11.4.** Guarantee obligations do not apply to products with broken manufacturer's seals.

11.6. In case of unit breakdown or malfunction within the warranty period, as well as in case of incomplete shipping is found, the owner must send the following documents to the manufacturer's address or manufacturers' representative: claim for repair (exchange) with name, address, telephone number; defects list with brief description of the malfunction, date and conditions of its appearance.

Address of company-manufacturer:

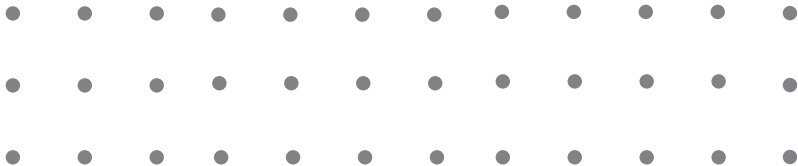
“Tronitek”, LLC

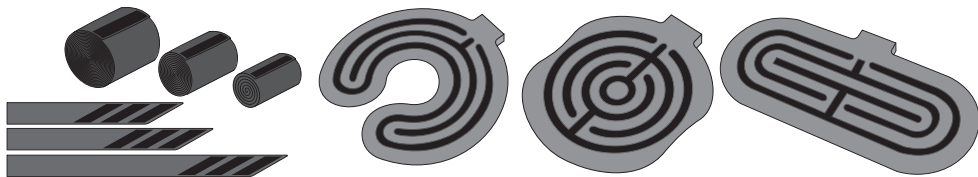
Akademika Postovskogo Str. 15

Yekaterinburg, 620146, Russia

APPENDIX 1

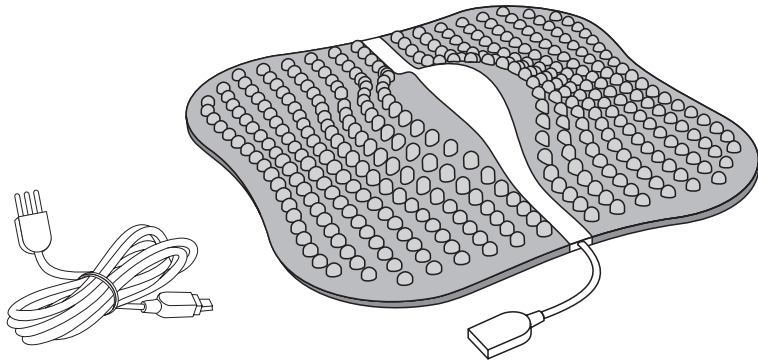
Accessories used





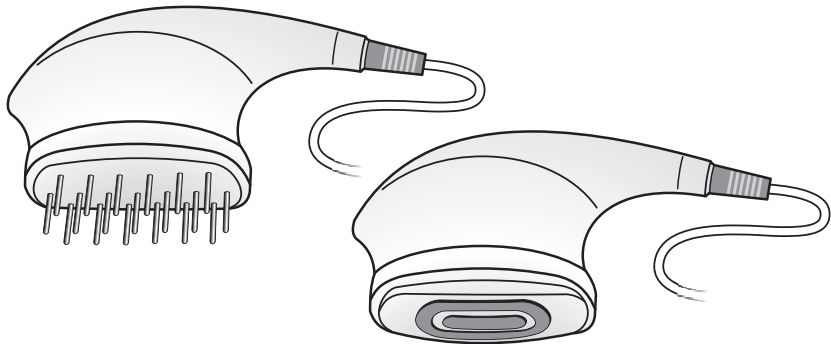
A set of detachable zonal electrodes DENS-applicator.

Intended for non-invasive therapeutic effect on zone of pain, lesion centers, reflexogenic zones (without disruption of skin integument)



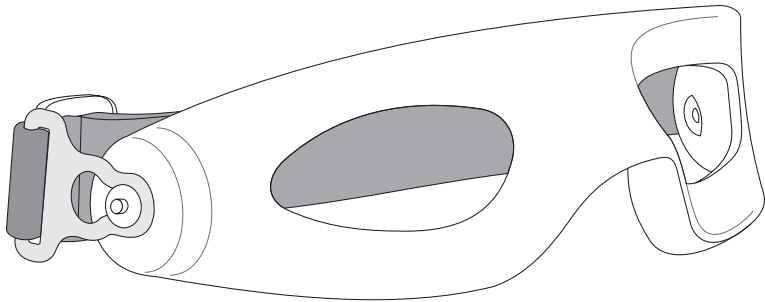
Therapeutic° external for feet Denas-Reflexo

Intended for therapeutic impact on biologically active zones of soles (feet)



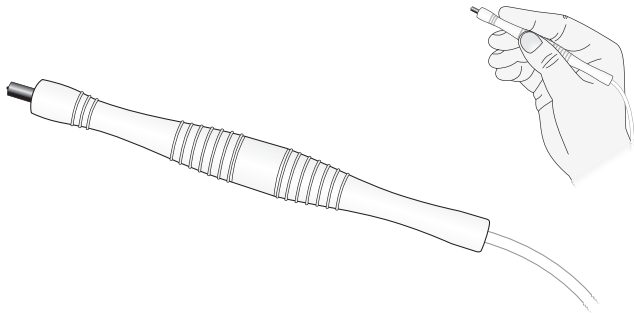
Therapeutic external massage electrodes.

Intended for treatment of zone of pain, lesion centers, reflexogenic zones and acupuncture points on the body



DENS-glasses.

Intended for prophylactic and therapeutic non-invasive impact on biologically active points, located around the eyes in paraorbital zone by method of dynamic electroneurostimulation



External therapeutic electrode.

Intended for therapeutic impact on biologically active points by method of dynamic electroneurostimulation



ТАЛОН НА ГАРАНТИЙНЫЙ РЕМОНТ

WARRANTY MAINTENANCE FORM

GARANTIEREPARATURSCHEIN

Наименование / Name / Bezeichnung: ДиаДЭНС-ПКМ / Denas-PCM / Denas-PCM

Серийный номер изделия / Serial number of device / Seriennummer des Produktes _____

Дата изготовления / Manufacturing date/ Herstellungsdatum _____

Дата покупки / Date of purchase / Kaufdatum _____

Владелец / Owner / Eigentümer _____

Адрес / Address / Adresse: _____

Телефон / Telephone / Telefon _____ домашний/home/privat

_____ рабочий/work/Geschäftlich

Дата отправки в ремонт / Date device sent for maintenance / Versanddatum im Garantiefall _____

Причина отправки в ремонт / Please explain the reason why device was sent for maintenance / Grund für die Einsendung zur Reparatur_____

Отметка о ремонте / Note of completed maintenance / Reparaturvermerk_____

Подпись должностного лица предприятия, ответственного за приемку после ремонта / Signature of the authorized person in the company responsible for acceptance after maintenance / Unterschrift des firmeneigenen Prüfers nach der Reparatur_____

Изделие проверено, претензий к комплектации, внешнему виду не имею. / The device was tested; I have no claims as to the completeness of the device in accordance with scope of delivery and the appearance of the device. / Das Produkt wurde überprüft, ich habe keinerlei Beanstandungen hinsichtlich der Vollständigkeit des Sets und des äußeren Zustandes.

Подпись покупателя / Signature of the buyer / Unterschrift des Käufers_____

Дата получения / Date received / Empfangsdatum_____

Гарантия на отремонтированное изделие составляет 12 месяцев с момента получения изделия из ремонта. Если гарантийный срок с момента приобретения изделия составляет более 12 месяцев, то гарантия исчисляется по большему сроку. Также гарантийный срок увеличивается на время нахождения изделия в ремонте. / The warranty period for the device after maintenance is 12 months of the date the device was received from the service centre. If the warranty period is more than 12 months of the date of purchase of the device, the warranty period shall be calculated based on a longer period. The period of maintenance of the device at the maintenance centre is also added to the warranty period. / Garantiezeit für die reparierte Ware beträgt 12 Monate ab dem Empfangsdatum der Ware von der Reparatur. Im Falle einer Garantiezeit, die mehr als 12 Monate beträgt, so geht man von der längere Garantiezeit aus. Garantiezeit verlängert sich grundsätzlich um die Reparaturzeit.

СВИДЕТЕЛЬСТВО О ПРИЕМКЕ / ACCEPTANCE CERTIFICATE / ABNAHMEBESCHEINIGUNG

Электростимулятор чрескожный универсальный ДиаДЭНС-ПКМ признан годным для эксплуатации. / The Denas-PCM transcutaneous universal electrostimulation unit has been found serviceable. / Der Elektrostimulator wird für betriebstauglich befunden.

Отметка о приемке:

Acceptance note:

Abnahmevermerk:

Дата продажи / Date of sale / Verkaufsdatum: _____

Подпись продавца / Signature of the seller / Unterschrift des Verkäufers: _____

С условиями гарантии ознакомлен, изделие проверено, претензий к комплектации, внешнему виду не имею. / I am aware of the warranty terms and conditions; the device was tested; I have no claims as to the completeness of the device in accordance with scope of delivery and the appearance of the device. / Über die Garantiebedingungen bin ich in Kenntnis gesetzt worden. Das Gerät wurde überprüft und ich habe keinerlei Beanstandungen hinsichtlich der Vollständigkeit des Sets und seines äußeren Zustandes.

Подпись покупателя / Signature of the buyer / Unterschrift des Käufers _____

Внимательно осматривайте аппарат при покупке! Дефекты корпуса или дисплея (царапины, трещины, сколы) не являются гарантийными случаями. Аппараты с такими дефектами обмену, ремонту или возврату по гарантии не подлежат. / Please carefully inspect the unit at the time of purchase! Defects of the body or the screen (scratches, cracks, splits) are not covered by the warranty. Devices with such defects shall not be exchanged, accepted for maintenance or returned. / Bitte untersuchen Sie das Gerät beim Kauf genau! Schäden an Gehäuse oder Display (Kratzer, Risse, Brüche) stellen keine Garantiefälle dar. Für Geräte mit derartigen Schäden besteht keinerlei Garantieanspruch auf Umtausch, Reparatur oder Rückgabe.