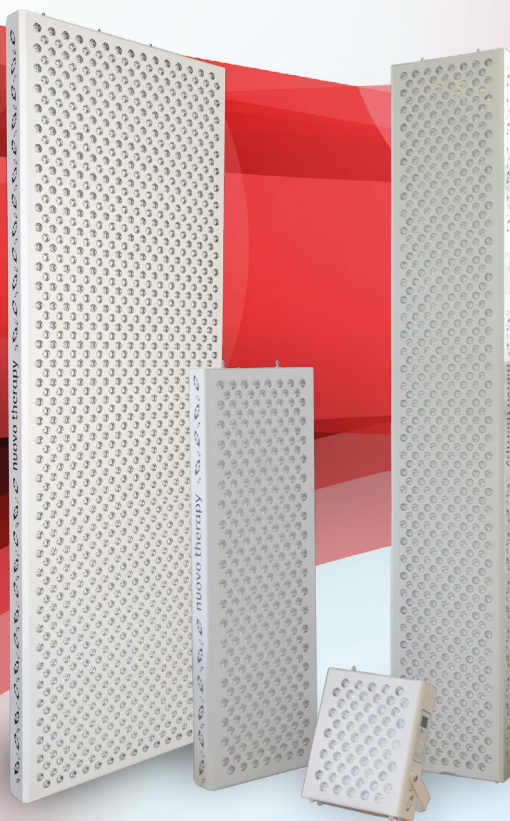


Photobiomodulation LED panels Pulse series



nuovo therapy



User guide

Your light on the path to health



What is photobiomodulation and how does it work?

Professional photobiomodulation therapy affects the wound and the body as a whole, improves wound and soft tissue healing, eliminates inflammation and provides relief for both acute and chronic pain. During low-intensity photobiomodulation therapy, interactions occur between cells and photons. PBMT has a photochemical effect (such as photosynthesis in plants) and when the intensity and duration of this therapy are set correctly, light reduces oxidative stress and increases ATP (adenosine triphosphate) production. This nucleotide improves cellular metabolism and eliminates inflammation, helping the body to cope with pain and promotes healing.

Benefits of 4 wavelengths

The use of the most biologically effective wavelengths is key to optimizing the benefits of red and near-infrared light therapy. Wavelengths of 630 + 660 nm of red light and 830 + 850 nm of near infrared light contained in Nuovo Therapy panels, are known for their unique therapy and regenerative results for the body. By combining these four wavelengths with special lenses that bend their light to an angle of 30 degrees, we bring you the most powerful and advanced equipment for photobiomodulation LED light therapy on the market.

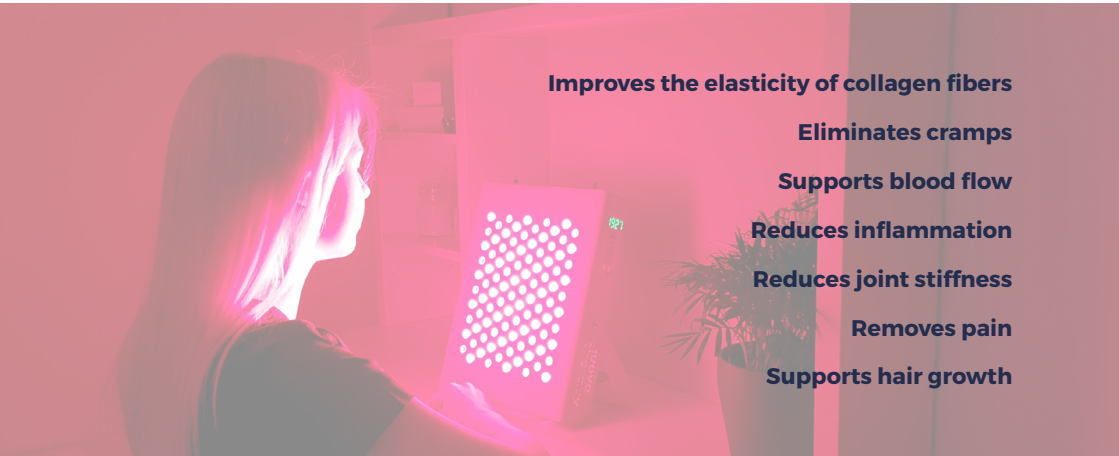
Pulse technology

The pulse technology of near-infrared light (NIR) enables a deeper penetration into the tissue than constant light and also has a noticeably smaller contribution to the heating of the irradiated area. When setting 20 Hz pulsation, the greatest effect of pulse technology is achieved, when there is greater support for tissue healing, fractures and also greater effectiveness in the therapy of Parkinson's disease, epilepsy and other psychological and neurological problems. There is also a reduction of chronic pain conditions and regeneration of nerve connections. This technology also has good results in supporting the natural inflammatory process in the body. You won't recognize the pulsing setting by eye, the actual blinking of the LEDs happens so fast that you won't even register it, but your cells will recognize the difference.

Radiation intensity setting

The panels have the option of setting the radiation intensity from 5 to 100 % of the power. A lower power is especially recommended in the first two to three days of therapy, when the panel is then switched to full power. At a power of 25 %, light therapy is also recommended about an hour **before bedtime**, when it helps to create the right atmosphere, calm the body and mind and prepare for rest. In the **morning**, this setting is especially suitable for smoothly waking up and starting the body for the normal activity that awaits it, and both in the evening and in the morning it does not disturb our so-called circadian rhythm.

Benefits of therapy



Improves the elasticity of collagen fibers

Eliminates cramps

Supports blood flow

Reduces inflammation

Reduces joint stiffness

Removes pain

Supports hair growth

Medical applications

LED light and infrared therapy provides the following therapeutic effects:

- Reduces inflammation
- Lowers blood pressure
- Improves thyroid function
- Restores microcirculation
- Helps the body release nitric oxide
- Prevents the development of cardiovascular diseases such as heart attacks and stroke
- Relieves pain
- Supports collagen production
- Activates fibroblast cells that produce collagen and elastin
- Supports increased blood flow, regeneration, circulation and oxygenation
- Detoxifies the body
- Provides recovery and supports optimal testosterone levels
- Effectively reduces arthritis, osteoarthritis and rheumatoid arthritis



Dermatology

Strong anti-aging and regenerating effects on the skin excel in the dermatological sector, where also:

- Removes irregular pigmentation
- Reduces melanin producing brown spots
- Reduces pore size
- Reduces skin roughness
- Reduces skin degradation
- Creates more skin moisture
- Minimizes wrinkles and fine lines
- Improves skin tone
- Eliminates and prevents acne
- Removes cellulite
- Reduces burns
- Eczema, psoriasis - psoriasis, scabies
- Chronic wounds
- Viral infections such as zoster, EBV and herpes simplex
- Basal cell carcinomas
- Actinic keratoses
- Diabetic ulceration
- Supports cellular metabolism and regeneration
- Cleans connective tissues
- Replaces lymphatic drainage



Sports industry

LED panels are top devices for achieving higher performance and faster regeneration in sports:

- Increases performance in sports
- Removes lactic acid
- Creates strong and fast regeneration after sports performance
- Significantly increases the endurance of the athlete
- Improves concentration
- Significantly reduces blood lactate, creatine kinase levels and C-reactive proteins
- Eliminates pain after sports performance and injuries
- LED light therapy surpasses in results even popular cryotherapy
- Tissues receive more oxygen and other nutrients important for healing and at the same time are getting rid of toxic by-products
- Relieves muscle spasms, muscle and joint pain as well as pain and stiffness associated with arthritis



Instructions for using therapy

To make proper use of therapy, it is necessary to realize that the closer we are to the light source, the more effective it is and the deeper it penetrates the body. It is also necessary that the irradiated area should be without clothing and, in the case of the face, also without make-up. To achieve the maximum effect, it is necessary, if possible, to irradiate the problematic area even from its opposite side on the body. People who suffer from dry eyes, burning and similar eye problems should use the included safety goggles.

Explanation of terms

Joule (J) is a unit of energy. The higher the Joule value, the more light energy goes to the irradiated spot. For most therapies, there is sufficient intensity between 3 and 60 Joules per square centimeter (J/cm^2) of your skin. Higher doses are excellent for the treatment of painful conditions or fractures.

$$\text{Dose (Joules per cm}^2\text{)} = \text{energy density (mW / cm}^2\text{)} \times \text{time (s)}$$

For example, using a $200 \text{ mW}/\text{cm}^2$ device for 60 seconds equals 12 Joules.

Therapy settings depending on health problems

Painful and inflammatory conditions of joints, spine, discs, bones including fractures, bone regeneration, osteoarthritis, osteoarthritis, osteoporosis and others

Excellent results are in areas such as osteoarthritis, arthritis, joint injuries and excessive swelling, without the side effects that are common with anti-inflammatory drugs. Bones show increased repair (osteoblastic proliferation), collagen deposition and bone formation when photobiomodulation therapy is applied. Acute pain is rapidly disappearing and chronic significantly reduces the frequency and pain, which increases a person's quality of life.

1. Therapy time is 8 minutes from a distance of 20 cm + 2 minutes from a distance of 60 cm.
2. Therapy up to 3 times a day until the pain is removed.
3. Pulse 20 Hz.

Thyroid disease

Photobiomodulation promotes improved thyroid function, patients have experienced a reduced need for LT₄, decreased TPOAb levels, and increased parenchymal echogenicity. Therapy will significantly increase the T₃ / T₄ ratio, increase the levels of vitamin D, selenium and iron, which makes it up to 70 times more effective than taking only dietary supplements.

1. Therapy time is 2 minutes from a distance of 40 cm + 8 minutes from a distance of 90 cm.
2. Therapy up to 2 times a day, 4-10 times in total, depending on the duration of the existing problem.

Inflammation of internal organs: intestines, stomach, bladder, kidneys, liver

Photobiomodulation therapy has a positive effect on the composition of the intestinal microbiome, it can reduce inflammation in the brain, lungs, abdomen and various types of wounds.

1. Therapy time is 7 minutes from a distance of 20 cm + 3 minutes from a distance of 60 cm.
2. Therapy up to 3 times a day, at least 15 times in total.

Reproductive organs: testosterone increase, varicocele, prostate, problems with pregnancy, solution of abdominal pain

Photobiomodulation is effective in increasing testosterone levels. Thus, it may be an alternative therapeutic option for common types of testosterone therapy. It can also be safely applied on the testicles without the risk of side effects or damage while providing all the benefits.

1. Therapy time is from 3 to 5 minutes from a distance of 40-50 cm + 5 minutes from a distance of 80 cm.
2. Therapy once a day, a total of 10-15 times, depending on the length of the current problem.

Skin: anti-aging, stretch marks, cellulite, eczema, pigment spots, acne, scars, burns, rosacea, psoriasis

Photobiomodulation therapy is a safe and effective method for rejuvenating the skin, reducing wrinkles, fine lines and increasing the density of skin collagen, fibroblasts and elastin. The application of photobiomodulation has a positive effect on the skin of the whole body. Overall, women will have clearer skin and a younger appearance, increased blood circulation, regeneration after sunburn and reduces inflammation and redness.

1. Therapy time is 8-10 minutes from a distance of 90 cm.
2. Therapy up to 3 times a day, at least 4-6 times in total.

Healing of wounds and postoperative conditions

Photobiomodulation therapy has a strong anti-inflammatory effect and works on acute and chronic inflammation. It is very effective for accelerating wound healing and increases collagen synthesis, strengthening muscle, bone and organ tissue. It is also recommended to undergo therapy before surgery in order to provide the body with the necessary strength, reduce oxidative stress and charge the cells. After the operation, it promotes wound healing, reduces swelling and inflammation.

1. Therapy time is 3 minutes from a distance of 40-50 cm + 7 minutes from a distance of 90 cm.
2. Therapy once a day, a total of 4-6 times. Can be twice a day.
3. Pulse 20 Hz.

Venous problems: varicose veins, whiskers, sore feet

1. Therapy time is 5 minutes from a distance of 50 cm + 5 minutes from a distance of 90 cm.
2. Therapy up to 3 times a day for 2 weeks, then once a day is enough.

Reduction of general inflammation (also preventively) and reduction of high blood pressure, coronary artery disease

Photobiomodulation therapy affects mitochondria to increase the production of a major energy source called ATP. Restores microcirculation and reduces inflammation. An integral part of therapy, however, is also a healthy lifestyle, exercise, quality sleep and proper diet - this unfortunately does not replace photobiomodulation.

1. Therapy time is 5 minutes from a distance of 20 cm + 5 minutes from a distance of 60 cm.
2. Therapy twice a day for at least 2 weeks.

Neurodegenerative diseases

Photobiomodulation therapy has been proven to be an effective neuroprotective therapy in patients with Alzheimer's and Parkinson's disease and probably other neurodegenerative diseases such as multiple sclerosis and amyotrophic lateral sclerosis.

1. Therapy time is 10 minutes from a distance of 60 cm.
2. Therapy once a day, a total of at least 15 times. Can be twice a day.
3. Pulse 20 Hz.

Migraine, traumatic brain injury and post-traumatic stress disorder, stroke and sleep

Photobiomodulation applied to the skull leads to improved cognitive functions in patients with traumatic brain injury even years after the injury. At the same time, it reduces the severity of symptoms in patients with post-traumatic stress disorder who share some of the same brain abnormalities as chronic TBI cases, including medial prefrontal cortex dysfunction. Therapy also supports the ability to learn and improves memory, stabilizes mood swings and promotes nerve tissue growth in damaged brain cells. Evening use of therapy increases melatonin levels, which causes better sleep, adjusts its cycles, deepens sleep and reduces the number of awakenings in insomnia.

1. Therapy time is 6 minutes from a distance of 30 cm + 4 minutes from a distance of 60 cm.
2. Therapy once a day, a total of 4 times. After that is possible twice a week.
3. Pulse 20 Hz.

Leg ulcers, diabetes

Photobiomodulation accelerates the healing process of chronic diabetic foot ulcers and can be expected to shorten the time required to achieve complete healing.

1. Therapy time is 10 minutes from a distance of 50-70 cm.
2. Therapy 2-3 times a day, at least 15 times in total.

Weight loss

Photobiomodulation increases the effects of exercise in obese person undergoing weight loss treatment. Improved lipid profile and decreased adipose tissue indicate increased metabolic activity and altered fat metabolism. We recommend performing the therapy early in the morning, when it also reduces appetite.

1. Therapy time is 10 minutes from a distance of 60 cm.
2. Therapy once a day, repeated 3 times a week for 3 weeks, then 2 times a week for about 2 months.

Carpal tunnel syndrome and tennis elbow

Photobiomodulation relieves pain and symptoms, improves functional abilities, strength of fingers and hands in mild and moderate patients with carpal tunnel syndrome. It is also effective in patients with carpal tunnel syndrome against tingling, numbness and improves grip strength in the hands. Photobiomodulation, together with exercise, is effective in relieving pain and in subjective assessment of physical function in patients with lateral epicondylitis.

1. Therapy time is 10 minutes from a distance of 20 cm.
2. Therapy at least 2 times a day, repeated 2-3 times a week for 2 weeks, then 2 times a week.
3. Pulse 10 Hz.

Athletes who want to perform better in their sports as well as in post-workout recovery in both amateur and professional competitions should use pre-exercise therapy to stimulate blood flow, deliver muscle energy, support cell oxygenation and increase nutrient supply to all key cells and muscles.

For the regenerative effects of the therapy, its use is recommended even after physical exercise within one hour of its completion. The optimal duration of therapy is 10 minutes before and after training.

The use of therapy in the morning also supports the **circadian rhythm** of the body, which optimizes the performance of glands, organs and hormones.

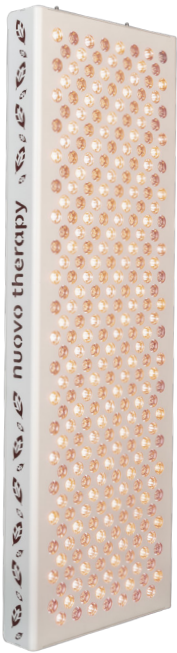
If you are not sure about the settings of your therapies, we will be happy to help you and we will consult the whole process together. Just contact us at info@nuovotherapy.cz/en.

Specifications of the Pulse series panels

	Pulse300	Pulse1500	Pulse3000	Pulse6000
LED power	300 W	1 500 W	3 000 W	6 000 W
Wavelengths	red 630 + 660 nm and infra 830 + 850 nm 1:4	red 630 + 660 nm and infra 830 + 850 nm 1:4	red 630 + 660 nm and infra 830 + 850 nm 1:4	red 630 + 660 nm and infra 830 + 850 nm 1:4
Dimensions	27 x 23 x 6.5 cm	91 x 30 x 6.5 cm	180 x 30 x 6.5 cm	180x 60 x 6.5 cm
Exposure area	50 x 75 cm	120 x 70 cm	220 x 75 cm	220 x 105 cm
Irradiation (mW/cm²)	>200	>200	>200	>200
Weight	3.5 Kg	11 Kg	22 Kg	43 Kg
Power regulation	5 - 100 %	5 - 100 %	5 - 100 %	5 - 100 %
EMF emission	zero	zero	zero	zero
Connectivity	Up to 20 pieces	Up to 20 pieces	Up to 20 pieces	Up to 20 pieces
Timer	1-30 minutes	1-30 minutes	1-30 minutes	1-30 minutes
NIR pulse	0 - 20 Hz	0 - 20 Hz	0 - 20 Hz	0 - 20 Hz
Remote controller	yes	yes	yes	yes
El. current at 220 V	0.48 A	2 A	4 A	8.4 A
Power consumption	100 W	432 W	833 W	1 646 W
LED power consumption	60 x 5 W	300 x 5 W	600 x 5 W	1200 x 5 W
LED angle	30 degrees	30 degrees	30 degrees	30 degrees
Fans	1	4	8	14
Lifespan	100 000 hours	100 000 hours	100 000 hours	100 000 hours
Suitable for	Local therapy	Local therapy	Full body therapy	Full body therapy

Radiation power

Exposure power of individual panel versions in milliwatts per square centimeter (mW / cm²) at different distances from the radiation source.



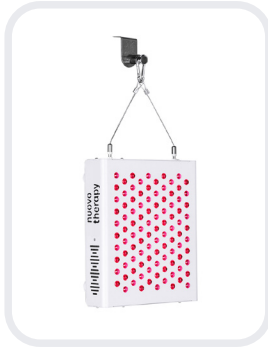
	15 cm	30 cm	45 cm	60 cm
Pulse300	>200	170	138	115
Pulse1500	>200	170	155	147
Pulse3000	>200	153	142	127
Pulse6000	>200	165	156	142

(mW/cm²)

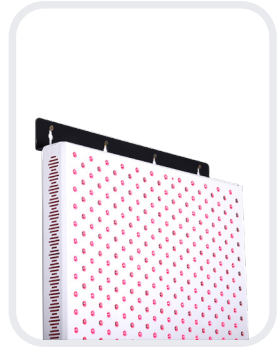
Mounting options



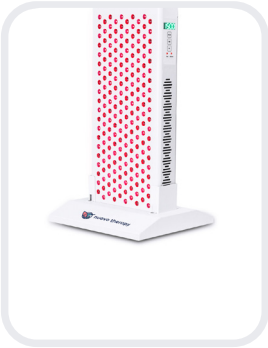
Electric stand horizontal



Door handle



Molding on the wall



Floor stand



Horizontal stand



Vertical stand



Ceiling bracket



Table stand

Package contents of the Pulse300 and 1500 models

- 1 / LED panel
- 2 / Pulley hinge
- 3 / Door hook
- 4 / Hanging cables

- 5 / Connection cable
- 6 / Safety glasses
- 7 / Power cord
- 8 / Remote controller

Individual pieces may differ slightly in appearance.



1 /



2 /



3 /



4 /



5 /



6 /



7 /



8 /

Package contents of the Pulse3000 and 6000 models

- 1 / LED panel
- 2 / Hanging rail
- 3 / Safety glasses
- 4 / Power cable

- 5 / Connection cable
- 6 / Remote controller
- 7 / Kit for mounting the rail

Individual pieces may differ slightly in appearance.



1 /



2 /



3 /



4 /



5 /

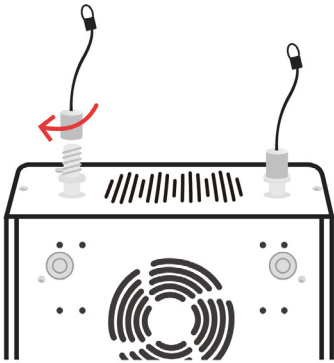


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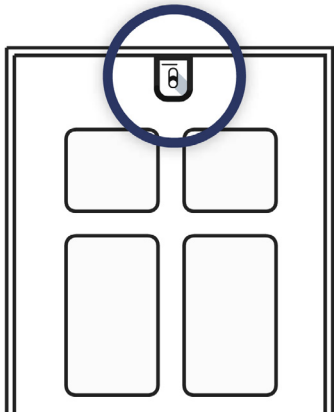


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Installation of LED panel Pulse300 and 1500

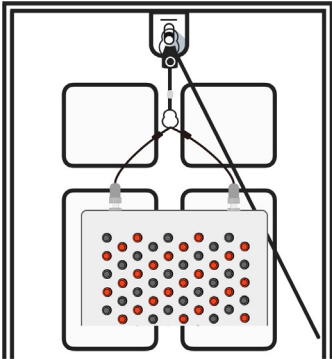


1 / Screw the suspension cables onto the threaded posts.

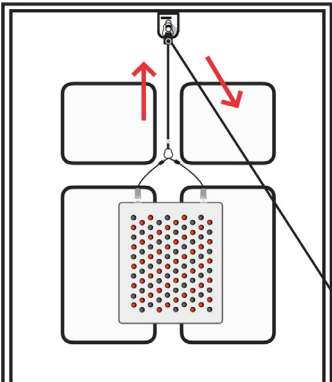


2 / Hang the door hook on the required standard thickness door.

Installation of LED panel Pulse300 and 1500



3 / Connect the suspension cables to the snap connection connected to the system of carabiners, which regulates the height of the panel. Then attach the latch at the opposite end directly to the door hook.

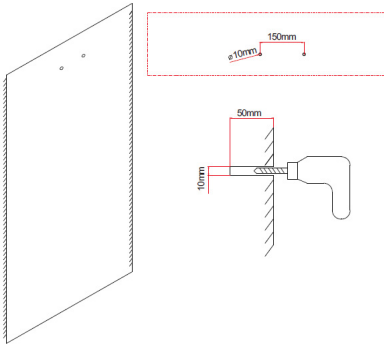


4 / The carabiner system regulates the height of the panel on the door.

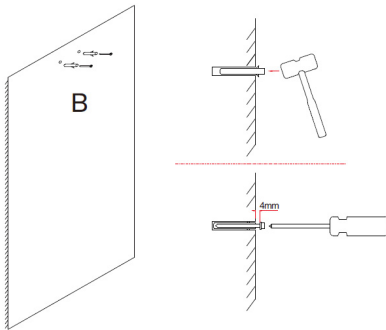


Use your other hand to support the height of the panel with the carabiner manipulation.

Installation of LED panel Pulse3000 and 6000

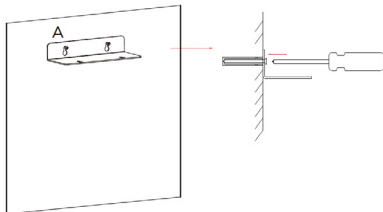


1 / Drill into a suitable wall 2 or 4 holes with a diameter of 10 mm and with a spacing of 150 mm depending on the panel model.



2 / Insert the dowels into the holes and screw in the screws, allowing them to protrude 4 mm from the wall.

3 / Hang the bar on the screws and tighten the screws.



4 / Slide the panel into the bar with threaded posts, push the panel together and install locking plastic screws into the resulting gap in the bar.



Avoid too much contact with the panel seated so that it does not tear off with a molding from the wall.

Panel control



After turning on the device, the initial therapy settings menu appears on the display.

The RED and NIR buttons are used to select red or infrared light and adjust their intensity using the + and - buttons.

The MENU button is used to select the therapy duration setting (Time), set the pulse technology frequency (Pulse) and set the pairing of several devices together (Group).

The duration of the therapy can be set between 1 and 30 minutes and the frequency of pulsing lights on 0 to 20 Hz.



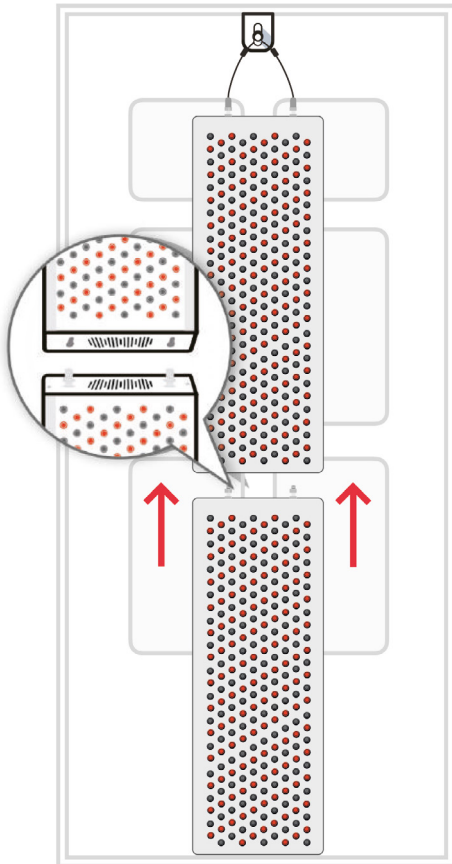
After selecting the desired setting, the therapy starts with the OK button. The therapy can be interrupted by pressing the OK or MENU button again.

Halfway through the duration of the therapy, the panel emits a sound signal, which you can use, for example, to change your position in front of the panel.



By holding down the + and - buttons at the same time, you will silence all the sounds made by the panel. A crossed out bell icon will appear on the display. Repeat this procedure to turn the panel sounds back on.

Connecting multiple LED panels together



To connect another LED panel to an already set up one, simply connect it via threaded posts into each other, see picture, connect the power cable to the first or last connected panel in the series and connect the connecting cable/s between all panels to each other. This allows you to turn on all panels and if you select the same Group number on each panel, you can control them simultaneously with the remote control.

Remote controller

The remote control has the same function and button arrangement as the display control. In addition, there are three buttons 1, 2 and 3, which are used to set the start of up to three already paired and set devices, which will create so-called groups (Group). For a description of the buttons on the remote controller, see page 19 - Panel control.

So if you want to control several panels at once with the controller, the panels must have the same number set in the MENU for the word Group. Then you press the same number on the remote controller as on the panels and you will be able to adjust the panels using this remote control.

If, for example, there will be Group 1 on one panel and Group 2 on the next, on the remote control you select the number that represents the given panel you want to control at a given moment.




Store and use in an environment with a temperature of -20°C to $+45^{\circ}\text{C}$, humidity below 85% and atmospheric pressure 86 - 106 kPa.

Manufacturer: Nuovo Therapy s.r.o., Purkyňova 45, 612 00 Brno, CZ

Contraindication

Therapies should be avoided by people treating cancer, pregnant women, people with pacemaker and epilepsy. Also avoid looking directly into radiation sources.

 Certificate of conformity No. 01092020/N

 Extremely bright light. Avoid looking directly into the light source.

The warranty for the device is 2 years and for LED emitters 5 years.

Use only the supplied cabling to ensure proper product operation. Do not leave the device in direct sunlight or near flammable materials. To reduce the risk of electric shock, do not disassemble or repair the device yourself. Do not use acidic or alkaline agents to wash it. Do not use the product in a place with high temperature or humidity. Unplug the device when not in use. Avoid using the device if the power cord is damaged and also if the body of the device is damaged. Do not turn on the device through an electrical splitter. If the following situations occur, please unplug the power cord and stop using the device:

- The device gets wet or otherwise damp.
- If the device is short-circuited.
- The device has a damaged power cord.

If technical problems occur, contact your dealer. We are not responsible for product failure caused by improper disassembly of the device. Do not use this device for any purpose other than that specified in this manual.

Device certificate

Device model:

Serial number:

Date of sale:







nuovo therapy



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