



LASER THERAPY

 User Manual

LASERVET 15.0



CE

DEAR CUSTOMER

**THANK YOU FOR CHOOSING A GLOBUS PRODUCT. WE REMAIN AT YOUR DISPOSAL FOR ANY
ASSISTANCE OR ADVICE YOU MAY NEED**

The Laser therapy devices are manufactured and distributed by



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TECHNICAL FEATURES

Device

Container:	ABS Food grade
Protection level:	IP20
Dimension:	220x170x60 mm
Weight:	1100 grams
Laser Class:	IV

Handpiece HP 808 nm 15W *

Diode type:	GaAlAs
Laser Class:	IV
Max RMS power:	4W \pm 20% (15 W Peak)*
Optics spot dimension:	11mm-22 mm \varnothing ; area 0,95 cm ² e 3,8 cm ²
Wave length:	808 nm \pm 10 nm
Operation:	continuous (CW) and pulsed
Pulsed emission frequency:	1 – 10.000 Hz
Guided wave length:	660 nm 100mW (Laser Class I)

*

Power is indicated with 2 values: Max RMS and Peak.

The max RMS power is the first value indicated and indicates the maximum average power that the laser can reach. The Peak power is the power that the laser diode can reach for short instants of time divided by "Ton-TOFF" to always guarantee the set RMS value.

Power supply

Manufacturer:	Dongguan Shilong Fuhua Electronic Co
Model:	UES65B1-180333SPA
PRI:	100-240V \sim 50-60Hz 1.5A
SEC:	18Vdc \equiv 3.33A max \ominus \oplus

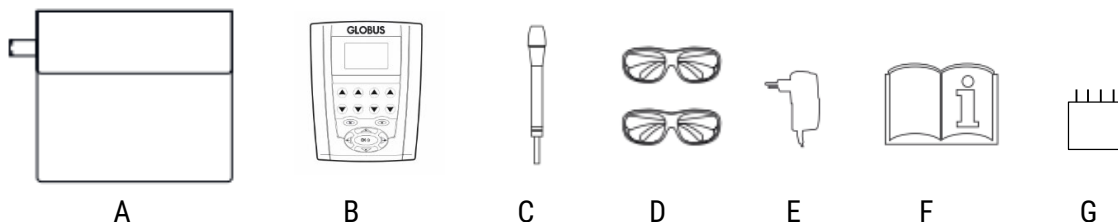
Battery

Battery pack:	Ni-MH 12V 2000 mA
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Conditions of use and storage of the device

Temperature:	from 0°C to 35°C
Maximum relative humidity:	from 15% to 93%
Atmospheric pressure:	from 700 hPa to 1060 hPa
Storage and shipping temperature:	from -10°C to 45°C
Maximum relative humidity:	from 30% to 75%

EQUIPMENT



- A: Carrying case
- B: Device
- C: Handpiece HP 808 nm 15W (REF G5796) + with 11 mm optics (REF G6090) and 22 mm optics (REF G6092)
- D: Operator-glasses (REF G6746), Patient glasses (REF G7659)
- E: Power supply
- F: User manual
- G: Lock connector (REF G6190)

The device is supplied complete of laser handpiece, power supply and protective glasses; therefore, please check that the package contains the complete equipment. If some elements are missing, contact your authorized retailer immediately.

Control carefully the integrity of the device and its accessories.

REF G6746 Operator-Patient glasses



Model: SG-04B

Wavelength: 800-1100nm

L-rating: 808 – 980nm DIR L5, 1000-1070 DIR L7

Application: 808nm, 980nm laser diode protection, 1064nm YAG laser protection.

Transmittance: 60%

REF G7659 – Patient Glasses

Sizes: S, M, L

Model: LP-YHP-2

Wavelength range: 800–1100 nm

Optical density: 800–900 nm OD >6, 900–1100 nm OD >7

Protection class (LB rating):

800–900 nm: D LB5 + IR LB6

900–1080 nm: D LB5 + IR LB7

Protected wavelength range: 808 nm, 980 nm, 1064 nm

Visible light transmittance: 41%

REF G6190 Lock connector

The Lock connector is a safety device that must always be inserted in the third output of the device when using the laser. If problems occur and there is a need to immediately stop the laser delivery of the handpiece, the connector must be extracted from the inlet. By doing so, the emission will stop.

REF G5993 Handpiece HP 808 nm 15W + REF G6090 11 mm optics and REF G6092 22 mm optics

Diode type:	GaAlAs
Laser Class:	IV
Max RMS power:	4W± 20% (15 W Peak)*
Optics spot dimension:	11mm-22 mm Ø; area 0,95 cm² e 3,8 cm²
Wave length:	808 nm ± 10 nm
Operation:	continuous (CW) and pulsed
Pulsed emission frequency:	1 – 10.000 Hz
Guided wave length:	660 nm 100mW (Laser Class I)

Optional accessories

- **REF G5995** Handpiece MP 980nm power 15W
- **REF G5996** Handpiece 1064nm power 3W
- **REF G6089** 60 mm optics

INTENDED USE



The estimated useful life of the product is of 5 years. It is advisable to return the device to the manufacturer and/or authorized center to perform security and maintenance checks every 2 years.

LaserVet 15.0 has been conceived to be used in the following environments:

- Veterinary offices;
- Veterinary physiotherapy centers;
- Veterinary rehabilitation;
- Pain treatments in the veterinary field.

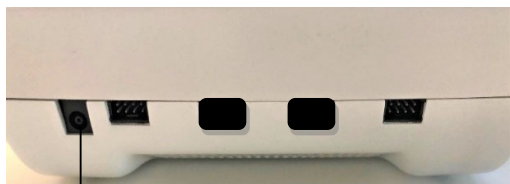
The device must always be used under the supervision of a qualified operator.

CONNECTIONS



Device

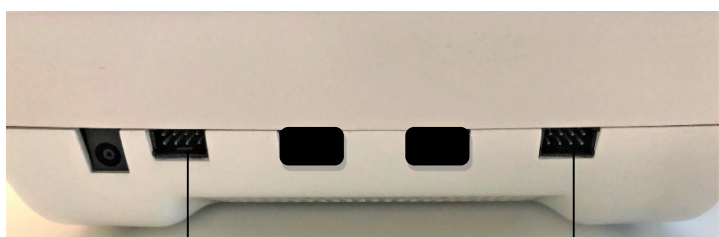
The device can both operate connected to the mains or with rechargeable battery. To connect the power supply to the connector, plug it as shown below.



Charger inlet

Connection with handpiece and lock connector

Insert the connector in the first slot on the upper part of the unit (see photo below). The grooves of the cable must be oriented downward. The emergency button must be inserted in the third output of the device before starting a treatment with the laser. Warning: if the button is not inserted the device will not emit.



Lock connector inlet

Handpiece inlet



Battery: how to charge the batteries

The device is supplied with a set of rechargeable nickel-metal hydride batteries with high performance and no memory effect.

It is advisable to recharge the batteries when the battery light on the display indicates $\frac{1}{4}$. To charge the batteries, turn off the device, then connect it to the power supply by plugging it in the appropriate inlet (see picture).

Do not use a power supply different from the one provided with the device. Contact an authorized service center to replace the set of batteries.











How to use the handpieces




It is possible to choose whether to use the handpieces in monostable or bistable mode (option in the SETUP menu). In case we use the monostable mode, the laser beam will be emitted only by holding down the button on the handpiece and will stop by releasing it. In bistable mode, on the other hand, simply press once on the handpiece button to start the emission and then it will be possible to release it (the emission will continue automatically). To stop the emission, press again on the handpiece button or on the OK button of the device (thus pausing the program).

Laser unlock

If we are using the laser in point mode, we can manage the beam emission only from the handpiece button. To do this, enter the SETUP menu, then LASER UNLOCK and select the "Button off" option. This way, it is not necessary to press "OK" on the keyboard to start the treatment of each point (situation that occurs with the "Button off" option), but simply press the activation button on the handpiece.

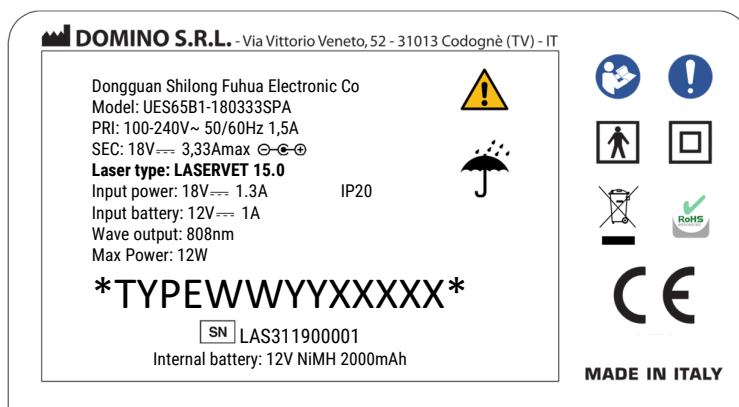
LABELLING AND SYMBOLS

	Warning
	This symbol on your device indicates that it complies with the requirements of the directives on electrical and electronic devices.
	Keep the device dry
	It indicates that this is a II class device.
	It indicates that this device has BF-type applied parts.
	WEEE symbol (Waste of Electrical and Electronic Equipment). Recycling symbol. The WEEE symbol used for this product indicates that it cannot be treated as a household waste. The proper disposal of the product will contribute to protecting the environment. For further information on the recycling of this product, please contact the concerned office of your local body, the household waste management company or the store where the product was purchased.
	It indicates that the product has been produced in compliance with the directive 2011/65/EEC.
	It indicates the optimal temperatures for the storage and transportation of the product.
	It informs the operator that before using the device he must read the manual.
IP20	It indicates water protection
	It indicates a compulsory behavior

	It indicates the pressure of the environment in which the device and the accessories are transported and stored.
	It indicates the pressure of the environment in which the device and the accessories are transported and stored.
	It indicates the manufacturer.
LOT	It refers to the production lot
IP	It indicates water or dust protection
Model	It indicates the power supply model
PRI	Input electric features of the power supply
SEC	Output electric features of the power supply
Laser type	It indicates the device type
Input power	Input electric features of the device with external power supply.
Input battery	Features of electric power supply from internal battery
Wave output	Laser emission wave length
Max power	Laser emission power
SN	It indicates the serial number of the device.
Internal battery	Indicates the features of the battery pack inside the device

Device

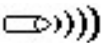





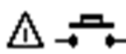

LASERVET 15.0



SN The first 4 digits of the serial number indicate the week and year of manufacture of the device you purchased (for example, if the code is *** 2319 *****, it means that the device was manufactured in week 23 of 2019).

ALARMS

Meaning of the icons

	<u>Correct power emission:</u> The treatment is going on properly. Laser emission.
	<u>Cable not connected:</u> Ensure that the cable is connected to the correct output.
	<u>Device in pause:</u> Press OK to continue the treatment.
	<u>The device is in stand-by mode:</u> Press the button on the handpiece to start the emission.
	<u>Device in Automatic Power Limiting mode</u> Diode in protection, power reduction
	<u>Lock connector not inserted or inserted in the wrong output:</u> check having inserted the lock connector in the third output of the device
	<u>Overheating:</u> when this icon appears, the device will stop the emission due to overheating of the handpiece. Leave the device inactive for a few minutes to help it cool down
	<u>Handpiece not compatible with the device model in use:</u> this icon indicates an error in the choice of the handpiece inserted in the device being used. Replace the handpiece with one that is compatible with the laser model in

	use.
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Acoustic signals

If the Acoustic Signal function is on, the device emits an acoustic signal when the buttons are pressed.

If the Acoustic Signal function is off, the acoustic signal that indicates the start/end of the treatment and the start/stop of the laser emission remain on.

If during the treatment the laser handpiece is suddenly disconnected from the connector, the device will emit an acoustic signal.

WARNINGS AND CONTRAINDICATIONS

Mandatory behavior

For maximum safety, the device must be used following the rules and the limitations indicated in the user manual.

The manufacturer declines all responsibility with reference to a use that is different from what is indicated in this manual.

The full or partial reproduction in any form and by any electronic or mechanical means of the texts and/or pictures contained in this manual without the written authorization of the manufacturer is forbidden.

If the package, the cable or the connector of the power supply show signs of wear or damage, replace it instantly.

The device should be connected to the mains with its power supply. Before starting this operation, make sure that the power system complies with the directives in force within your country. Make sure that the power supply can be easily unplugged.

Ensure that the device is not misused.

Do not modify the device.

Instructions before use

Do not use the device with other electronic devices simultaneously, especially if they maintain vital functions. Read the enclosed tables to operate the device correctly. If you have to use the device near or upon other devices, pay attention to how it is working.

- It is recommended to read carefully the entire operating manual before using the device; keep carefully this operating manual.
- Do not put your fingers or metal objects into the handpiece emission holes, to avoid damaging the optical section and/or hurting yourself.

The device can be connected only to Globus laser handpiece, which is included in the package, and used exclusively according to the indicated therapeutic modes.

- Before every use, always check the integrity of the device. This is a fundamental requirement for carrying out the therapy; do not use the device if the buttons or the cables are defective or malfunctioning.
- It is recommended to make sure that the pointing laser beam is working properly. It has to be always working before starting the therapy; if not, the device is not working properly.

The device:

- must not be used near people not wearing protection glasses.
- must be used only by people over 18 and, in any event, in full possession of their mental faculties;
- has to be used under the vet doctor's or physiotherapist's supervision and by following their indications.
- it must be kept out of the reach of children;
- when turning the device on, ensure that the software version and the device model appear on the screen, as this indicates that the device is working properly and is ready for use.

If it does not show that information or does not show all the segments, turn it off and on again. If the problem persists, contact the customer care and do not use the device.

- Shutdown right after turning on indicates that the battery is low. Recharge it as reported in the section HOW TO CHARGE THE BATTERIES.
- Any misuse or mishandling of the device may lead to a dangerous exposure to laser radiation.

Warnings during the use

While using LaserVet, please follow these indications:

- the operator should wear the specific glasses that are part of the equipment.
- cables, solenoids and power supply must never be wound up around the neck, since it may lead to strangulation and suffocation.
- mobile and fixed radio communication devices may affect the functioning of the device: see the tables attached to this manual.
- any misuse or mishandling of the device may lead to a dangerous exposure to laser radiation.

Side effects

Possible side effects of the laser therapy are:

- photosensitization;
- rebound effect (the increase of the pain after lasertherapy);
- skin pigmentation.

Contraindications

Do not use lasertherapy in these cases:

- on pregnant animals;
- on vital organs (heart, head, ovaries, etc.);
- on epileptic patients;
- on patients who have photosensitization reaction;

- on patients suffering from fever;
- on patients suffering from bleeding diathesis;
- in case of patients with tumor diseases, visit your physician or oncologist before using lasertherapy.
- on the thyroid or other endocrine glands.
- on the eyes, since it may cause serious injuries;
- Use lasertherapy carefully in the pigmented areas, to avoid overheating the area;
- on the ischemic tissues;
- on the areas over bone metaphyses during bone growth and the areas where hemilaminectomy or laminectomy have been performed.

MAINTENANCE AND CLEANING

Maintenance and cleaning of the device

- In case of real or alleged malfunctioning, do not tamper with the device and do not try to repair it by yourself. Do not intervene on the device and do not open it. Only specialized and authorized centers can repair it.

- Avoid violent impacts that may damage the device and cause malfunctioning, also not immediately detectable.

Use this device in a dry environment and in an open space (not wrapped in any material).

- Clean the device and its accessories only by using disinfectant with sodium hypochlorite or quaternary ammonium salt (percentage: 0.2-0.3%) diluted with distilled water. After cleaning/disinfecting the device and its accessories, dry them perfectly with a clean cloth.

- Always use the device and the accessories with clean hands.

- It is recommended to use the device and the accessories in a clean environment to avoid contamination with dust and dirt.

- It is recommended to use the device in a ventilated, well-aired space.

- It is recommended to clean/disinfect the parts after every use, unless otherwise indicated.

Battery management

The device has a menu that allows to see the status of the battery charge, if the device has one. The values displayed in this menu enable the manufacturer and/or the authorized help center to check the status of the battery charge.

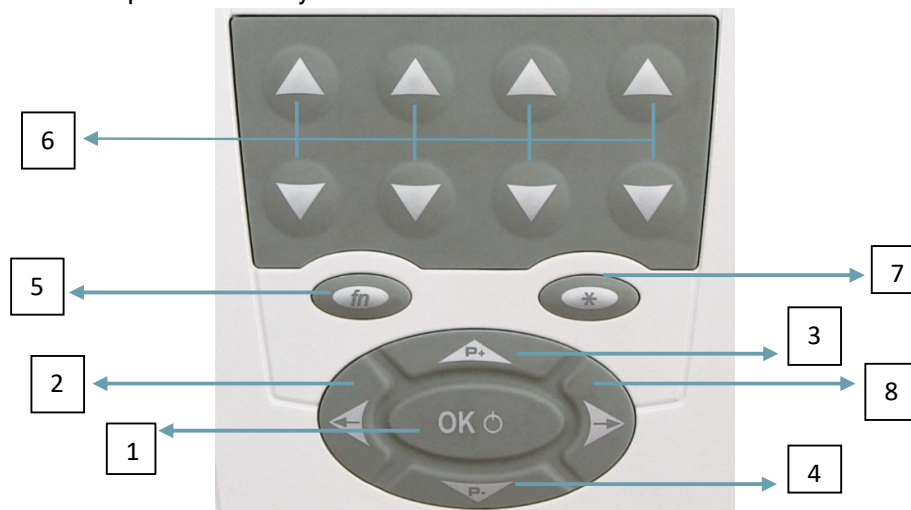
Disposal of the device

Do not throw the device or parts of it into the fire; dispose of the product in the specialized centers and respecting the regulations in force in your Country. When the product has to be disposed of, the user can give it back to the retailer when purchasing a new device.

Correct waste separation and returning the end-of-life product contribute to avoiding negative impacts on the environment and health and promote the reuse and/or recycle of materials. The illegal disposal of the product entails the application of administrative fines in accordance with applicable regulations.

DEVICE DESCRIPTION

Below is a brief description of the keyboard and commands of the device.



1. ON/OFF/OK button (start, shutdown, confirm)
2. LEFT/BACK BUTTON
3. P+ button to scrolls the programs upward
4. P- button to scrolls the programs downward
5. Fn button (to activate the special functions described in "Instructions").
6. They allow to increase or decrease the parameter visible on the display corresponding to each pair of buttons. The first pair of buttons adjusts the average power, the second pair of buttons adjusts the peak power, the third pair of buttons adjusts the area on which we want to carry out the treatment, the fourth pair adjusts the duty cycle (in pulsed emission programs and scanning mode).
7. Button * to display the parameters of a program being used.
8. RIGHT/NEXT Button

DEVICE USE

General instructions

Turning the device on/off

To turn on or off, press and hold the ON / OFF / OK button until an acoustic signal is heard.

Unlock device with PIN code

When the device is not in use it must be protected against unauthorized use, for this purpose the PIN function is on. The PIN is a SW code designed to prevent the use of the device by unauthorized personnel.

In order to use the device, after switching on, you need to enter the PIN code.
Press P + 4 times (factory preset PIN sequence), then press the ON / OFF / OK button to confirm.

Connection with handpiece and lock connector

Insert the connector in the first slot on the upper part of the unit (see photo below). The grooves of the cable must be oriented downward. The emergency button must be inserted in the third output of the device before starting a treatment with the laser. **Warning: if the button is not inserted the device will not emit.**

Choice of the phototype

Before starting any program, the user is asked to choose, based on the patient's skin/fur color, the most appropriate phototype among 6 options, according to the Fitzpatrick scale:

Type I	Type II	Type III	Type IV	Type V	Type VI

Between one phototype and the next, the emission power is slightly reduced and the duration is increased, so as to guarantee the transfer of the same therapeutic dose. The choice of the phototype is particularly important in the case of dark skin/fur.

Choice of the optic diameter

After choosing a program from the program list, the software will ask you to choose the diameter of the optic. This is important to adapt the laser emission to the optic spot and ensure the effectiveness of the treatment.

Emission type

The device allows 2 types of laser emission:

Continuous mode: continuous laser emission with 100% duty cycle.

Pulsed mode: laser emission with variable duty cycle and frequency that depends on the individual program (frequency that can be set for programs created by the user).

Program type

The device supports 2 types of programs:

Scanning mode: the treatment is carried out uniformly over one area.

Point mode: the treatment is performed by points using the handpiece statically on each point. After treating each point, the handpiece is moved to the next point to be treated.

How to carry out a preset program

- In the main menu, select PROGRAM LIST
- Choose the type of animal to be treated (dogs, cats, horses, etc...)
- Choose the anatomical area (musculoskeletal system, integumentary system, other systems)
- Choose the program according to the patient's problem (arthritis, arthrosis,...) and press Start.

- Confirm the diameter of the optic installed on the handpiece
- Set the patient's phototype

How to adjust the intensity while running the program

The preset programs are ready for use and it is not necessary to increase the emission intensity. If it is deemed appropriate to make changes to the average and peak power, it is possible to do so in the following ways:

- press P +/- to increase the average and peak power at the same time (the corresponding duty cycle will be maintained)
- press the arrows corresponding to the Average and Peak parameter to increase or decrease the single parameter. This adjustment will affect the duty cycle percentage and the treatment time
- press the Ok button to pause
- press the FORWARD or BACK button (for a few seconds) to end the treatment in advance.

Important

In the continuous emission programmes, the average and peak power correspond, therefore it will be possible to increase the intensity up to the maximum value of average power foreseen for the device (refer to the data reported in the technical characteristics chapter of this manual).

In the pulsed emission programmes it will be possible to adjust the average and peak power independently, until the two maximum values foreseen for the device are reached. The ratio between the two values will determine the duty cycle.

Both in the programs already in the library and in free programming, the power can be adjusted up to 60 minutes of treatment. With very low powers, the treatment duration timer may be updated every 2-3 seconds instead of second by second. This is completely normal and does not indicate a malfunction.

Switching from continuous to pulsed emission during a programme

The preset programmes are the result of a careful evaluation of the scientific literature, therefore we suggest to stick to the set parameters. In all continuous emission programmes we have seen that the average and peak power correspond and therefore can only be changed simultaneously. If, in certain therapeutic conditions, it is considered more appropriate to switch to a pulsed mode, in order to exploit the effect of the peak power, it is sufficient to keep the key for increasing the peak power pressed for 3 seconds. This will switch to treatment in pulsed mode. The frequency in Hertz will be set with a default value of 1000 Hz.

Energy, Area and Treatment Time

This device allows you to transfer a maximum of 6500 J in 60 minutes (you can view the total energy by pressing the * key).

In the case of a scanning program that provides for a lower amount of total Joules it will be possible to change the pre-set treatment area up to 250 cm².

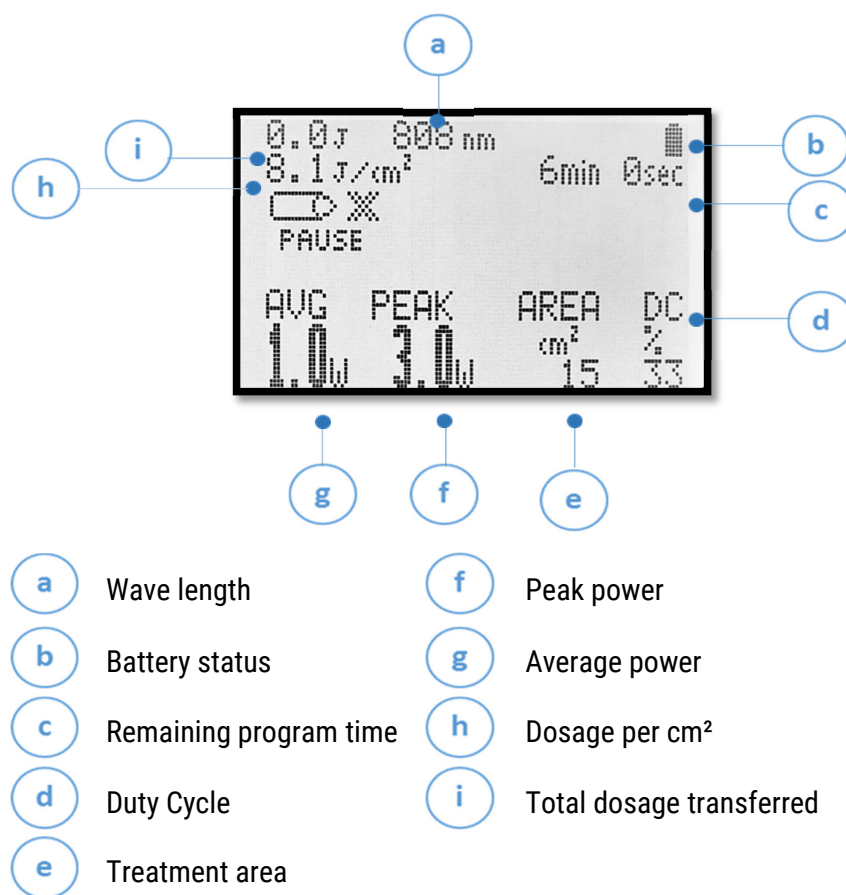
APL function

If the ambient temperature in the place of use is particularly high or if the pause time between consecutive treatments is very short, the device will activate an intelligent protection system that will

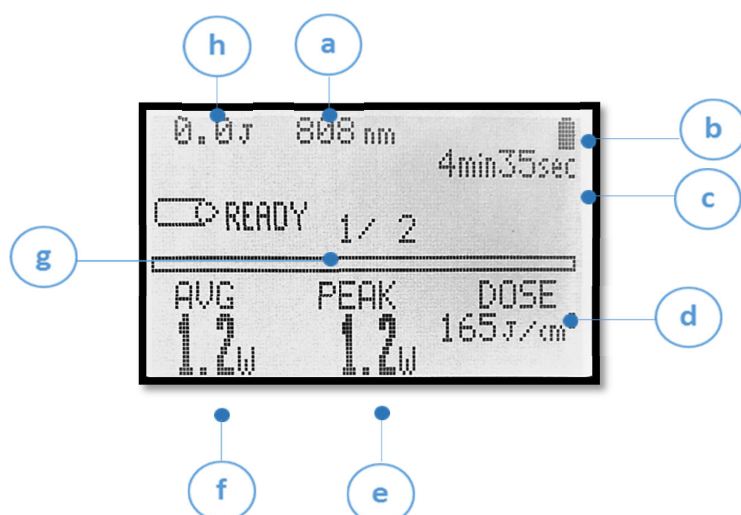
automatically adjust the power and duration of treatment in order to preserve the diode and ensure the effectiveness of the treatment. During this situation the icon "APL" (Automatic Power Limiting) will appear on the screen, the treatment time will increase slightly and it will be impossible to increase the emission power (it will be possible to decrease it). To find out the power output with the protection system active, press the asterisk key and refer to the figure marked P. The main screen will retain the setup value set by the user.

Screenshots of a running treatment program

Scanning mode:

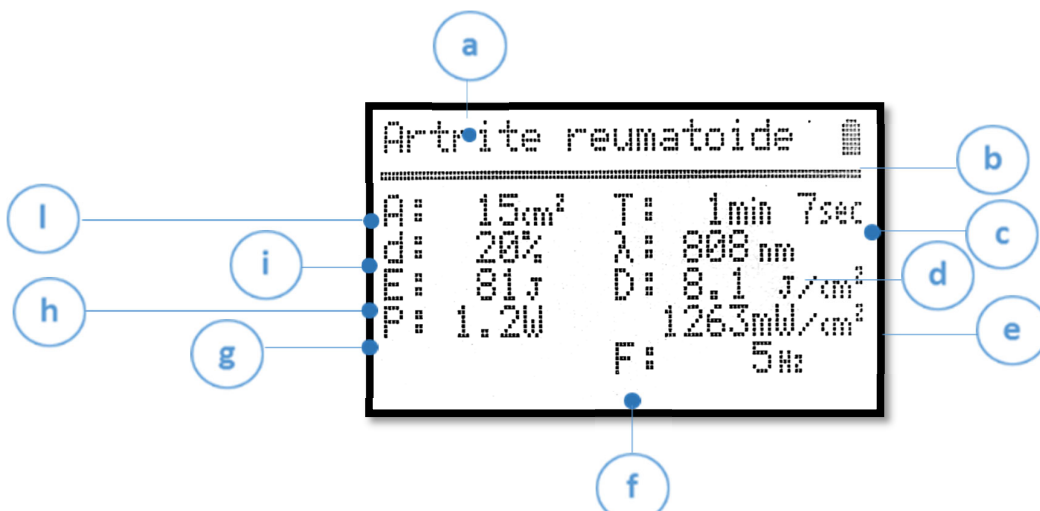


Point mode:









- (a) Wave length
- (b) Battery status
- (c) Remaining program time
- (d) Dosage per cm²
- (e) Peak power
- (f) Average power
- (g) Point number/total points
- (h) Total dosage transferred

By keeping the * key pressed, you go to the screen-page that usually characterizes a laser therapy protocol. The following screen-page will appear with the specific parameters of the program being executed:



- (a) Name of the program
- (b) Battery status
- (c) Remaining program time
- (d) Dosage per cm²
- (e) Peak power
- (f) Average power
- (g) Point number/total points
- (h) Total dosage transferred

 c	Remaining program time	 i	Duty Cycle
 d	Wave length	 l	Treatment area
 e	Dosage per cm ² and Power density		
 f	Frequency		

How to save a program to easily find it for a new use

- In the main menu, select PROGRAM LIST and select the desired program.
- Choose SAVE TO FAVORITES
- Start the treatment. For a new use we will find the program in the FAVORITES section (Folder) of the main menu. In FAVORITES we will also easily find the programs included in PROGRAMMING (New)

PROGRAMMING

How to create a new program

- In the main menu, select PROGRAMMING
- Scroll with P + and P- until you find a free memory (the word Empty will appear) and confirm with OK.
- Using P +, P-, BACK and FORWARD, rename the program and confirm with OK
- Choose the type of emission (continuous or pulsed)
- Choose the mode of use (scanning or point)
- Using the pairs of arrows below the display, change the corresponding parameters. Then confirm with OK
- Confirm or not to save the program
- Press OK to start the treatment
- Once the program is finished, it will be saved in PROGRAMMING and it will be possible to repeat it, modify it (fn + P +) or delete it (fn + P-).

Important: when creating a new programme, the power that can be set is referred to the average power, therefore the maximum limit depends on the maximum average power foreseen for the device.

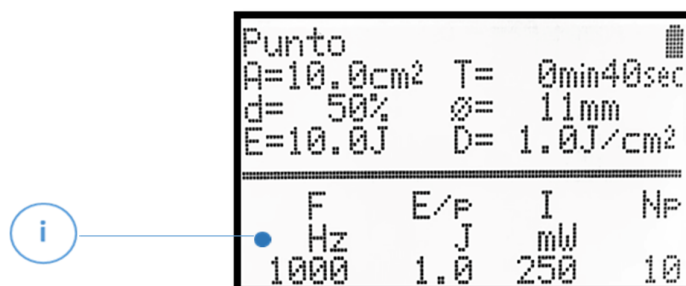
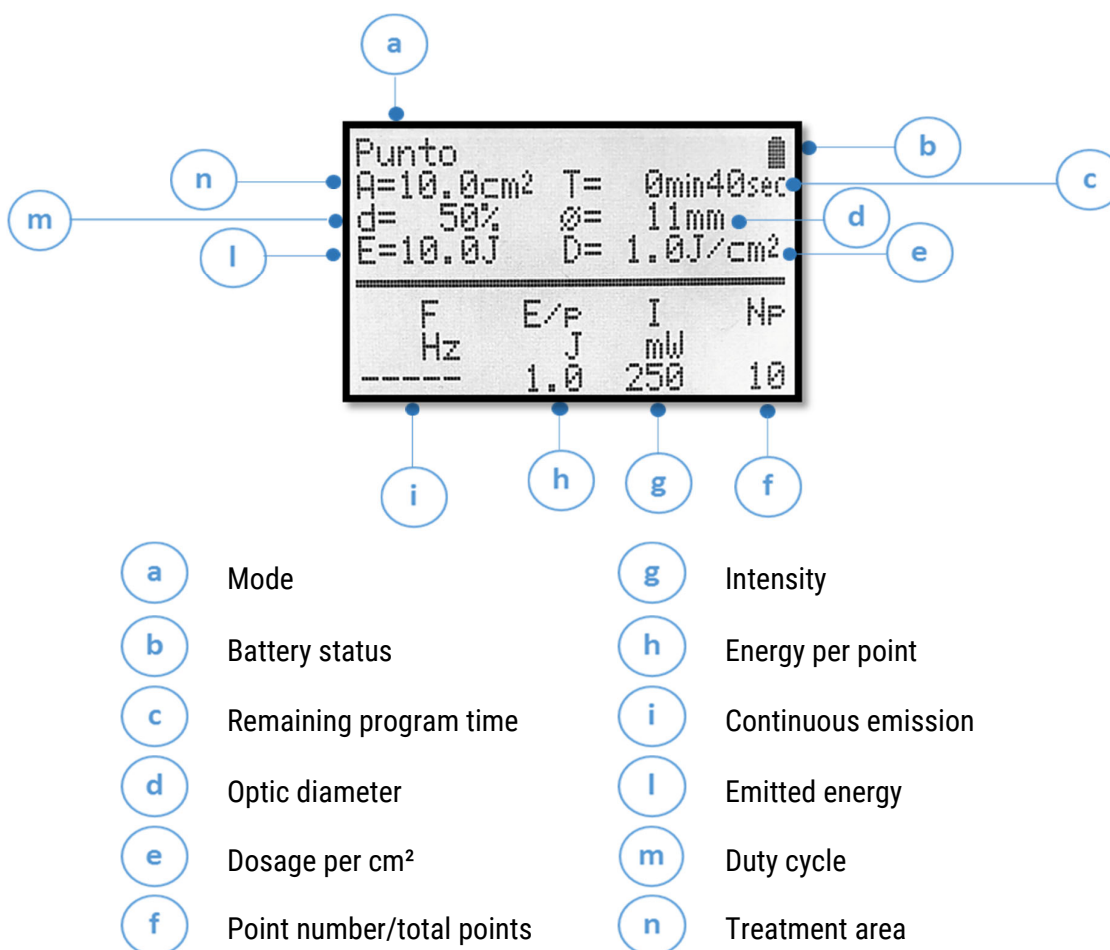
Screenshots of programs in the Programming section

Scanning mode

Choosing the scan mode, this screen will appear:

Point mode

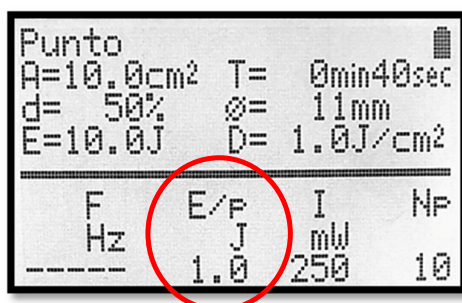
Choosing the point mode, instead, this screen will appear:



i Pulsed emission

Using the adjustment keys, you can set the frequency (if the pulsed emission mode has been chosen), the energy per point, the power intensity and the number of points.

By pressing the * key, the parameter "D" (Power density) in J / cm² is displayed at the bottom and, with the adjustment keys, it can be changed.



Also in this case, by acting on the four Up and Down buttons, it is possible to modify the frequency (if the pulsed emission mode has been chosen), the program duration, the power intensity and the size of the area to be treated, combining them in order to obtain the desired protocol. By pressing the * key, the parameter "D" (Power density) in J / cm² is displayed at the bottom and, with the adjustment keys, it can be changed.

Possible problems

If the connected handpiece does not have an adequate wavelength for the laser model purchased, it will not be possible to use the device (the program list will not appear).

How to customize the functions of the device

From the main menu, choose the SETUP option where you can change:

- Lighting time:** allows to vary the duration of the backlight in stand by.
- Contrast:** Allows to vary the contrast level of the display. It should be used when the writings on the display cannot be read well.
- Auto shut-off time:** The user can choose the inactivity period after which the device automatically shuts down. Press P+ and P- to set the time in minutes.
- Language selection:** Allows to choose between the different navigation languages with the P + and P- keys. Confirm the selection by pressing OK.
- Sounds of service:** It allows to enable (YES) or disable (NO) the beeps the device emits.
- Handpiece button:** Allows to select 2 modes: monostable and bistable. Monostable: hold the handpiece button down to make the device emit; release the button to stop the emission. Bistable: press the button on the handpiece one time to make the device emit; press the button again to stop the emission.
- Default lambda:** if the device is switched on without a handpiece connected, it will only display the list of available programs with the wave frequency selected with this function.
- Default optic:** it is possible to set the diameter of the handpiece spot to be used as default during treatment (useful function if you have more interchangeable lenses available).
- Laser unlock:** It is possible to activate or deactivate the safety function during the "point" laser treatment. The device is supplied with the "Key on" function, i.e. during the point treatment, to start the treatment of each point it is necessary to press the "OK" key on the keyboard and then press the activation button on the handpiece. If the "Key off" function

is on, it is not necessary to press "OK" on the keyboard to start the treatment on each point, but simply press the activation key on the handpiece.

- j. **Edit PIN:** Allows to change the current PIN. Enter the current PIN, then the new PIN, confirm and press OK, at this point the new PIN is enabled.
- k. **Battery management:** see section MAINTENANCE AND CLEANING.

APPLICATION MODE: THERAPEUTIC EFFECTS

The biological changes caused by laser light determine the following therapeutic effects:

- 1) **Biostimulating effect.** The biostimulating effect of the laser accelerates the cicatrization of ulcers and sores. Laser light stimulates the mitochondria and accelerates the ATP production. The increased production of APT recharges the energy of the cells. Thus, the cells damaged by inflammations, traumas or regeneration reacquire their physiological functions.
- 2) **Activation of microcirculation.** Lasertherapy has an intense vasoactive action on microcirculation. The activation of microcirculation leads to a better nutrition and a better drainage of the catabolites from the tissues.
- 3) **Antalgic effect.** The laser causes analgesia because it increases the excitability threshold of the nociceptors and it also generates an anti-inflammatory effect.

Application method

Please comply with the following indications when performing lasetherapy:

- 1) Always wear the protection glasses (to protect your retina). Do not use the device in a space containing reflecting surfaces.
- 2) The treatment area has to be shaved and cleaned from gel, creams, pus or necrotic tissue with a non-irritant, disinfectant solution. Surface fat may reflect the laser beam and hinder the correct penetration. Clean skin wounds before starting the treatment. If the patient cannot be sheared, shift the hair to facilitate the direct contact of the handpiece with skin. Hair shaving is necessary if patient's fur is particularly thick (e.g. Fox Terrier).
- 3) In the absence of lesions, the laser beam has to be kept at 90° with respect to the skin and directly in contact with it. If the skin has lesions, the handpiece has to be kept at 1 cm from the treatment area. Please note that a longer distance corresponds a lower power intensity and a larger treatment area. If the treatment area contains osteosynthesis material (screws, cerclages, plates, prostheses or external implants), it is recommended to treat the surrounding area, without aiming the laserbeam at the metal parts.
- 4) The treatment time for each cm² of surface changes in relation to the type of used laser, to the emission methods (continued or pulsed) and to the average power. Specific treatment areas in cm² have been attributed to every animal, proportional to their size.
- 5) The number of sessions is related to the types of pathology and usually ranges from 10 for acute disorders to 20 for chronic disorders.

Therapeutic sessions can be performed on a daily basis for skin wounds and every two, three days for musculo-skeletal, according to patient's conditions. Chronic disorders usually require more sessions than acute disorders.

Do not perform Lasertherapy on sedated patients, since following their reaction during the therapy is fundamental to obtain a feedback and adapt the parameters according to individual needs. If the patient feels discomforted during the session, it is advisable to reduce the intensity or to stop the treatment.

If the dosage is excessive and tenderness increases, it is recommended to reduce the frequency of treatments and the intensity during the following treatment.

6) Lasertherapy can be performed on both scan and point mode. In point mode, the handpiece can be moved concentrically or kept still in a specific point during the whole treatment time (which is indicated by the device). Point mode is particularly effective for uneven surfaces (e.g. small joints). In scan mode, the handpiece has to be passed on the treatment area slowly and constantly, concentrically or horizontally and vertically. Scan mode is particularly effective for smooth and even areas (e.g. muscles) or for skin wounds.

PROGRAM LIST

Dog program list

AREA	PATHOLOGY	SESSIONS/WEEK	N. OF WEEKS
MUSKULO-SKELETAL	Arthritis	3	3
	Arthrosis	2-3	2
	Contractures-Sprains	2-3	2
	Contusion	3	3
	Discopathy		2
	Acute pain	3	2-3
	Chronic pain	3	2
	Edema	3	2
	Hygroma/Bursitis		2
	Trigger point		2
	Spondylarthrosis	2-3	2
	Acute tendinopathy	2-3	2
	Chronic tendinopathy	2-3	2
	Fractures	3	4
	Osteosynthesis	3	4
	Ligament injuries	3	4
	Dysplasia/instability	3	4
	Neuropathy	2-3	3
	Compressive myelopathy	2-3	3
INTEGUMENTARY	Acute superficial wounds	3-5	Until a complete healing
	Chronic superficial wounds	3-5	Until a complete healing
	Acute deep wounds	3-5	Until a complete healing
	Chronic deep wounds	3-5	Until a complete healing
	Granulomas	3-5	2-3

	Bacterial skin infection	3-5	2-3
	Sacculitis	2-3	2-3
	Perianal fistulas	2-3	2-3
	Pododermatitis	2-3	2-3
OTHER SYSTEMS	Stomatitis	2-3	3
	Otitis	2-3	3

Cat program list

AREA	PATHOLOGY	SESSIONS/WEEK	N. OF WEEKS
MUSKULO-SKELETAL	Arthritis	3	3
	Arthrosis	2-3	2
	Contractures-Sprains	2-3	2
	Contusion	3	3
	Discopathy	3	2
	Acute pain	3	2-3
	Chronic pain	3	2
	Edema	3	2
	Hygroma/Bursitis	3	2
	Trigger point	3	2
	Spondylarthrosis	2-3	2
	Acute tendinopathy	2-3	2
	Chronic tendinopathy	2-3	2
	Fractures	3	4
	Osteosynthesis	3	4
	Ligament injuries	3	4
	Dysplasia/instability	3	4
	Neuropathy	2-3	3
	Compressive myelopathy	2-3	3
INTEGUMENTARY	Acute superficial wounds	3-5	Until a complete healing
	Chronic superficial wounds	3-5	Until a complete healing
	Acute deep wounds	3-5	Until a complete healing
	Chronic deep wounds	3-5	Until a complete healing
	Granulomas	3-5	2-3
	Bacterial skin infection	3-5	2-3
	Sacculitis	2-3	2-3
	Perianal fistulas	2-3	2-3
	Pododermatitis	2-3	2-3
OTHER SYSTEMS	Stomatitis	2-3	3
	Otitis	2-3	3

Horse program list

AREA	PATHOLOGY	SESSIONS/WEEK	N. OF WEEKS
MUSKULO-SKELETAL	Arthritis	3	3
	Arthrosis	3	3
	Acute pain	3	2-3
	Chronic pain	3	2-3
	Trigger point	3	2
	Acute tendinopathy	2-3	2
	Chronic tendinopathy	2	2
	Fractures	3	4
	Ligament injuries	3	4
	Neuropathy	2-3	3
	Navicular syndrome	3	4
	Muscle injuries	2-3	2
	Laminitis	3	4
	Contusion-edema	3	2
	Cervical pain	2-3	3
	Dorsalgia	2-3	3
	Periostitis	2-3	2
	Bursitis	2-3	2
	Osteotomy	3	4
	Capsulitis	3	Until a complete healing
	Tendon tears	3	Until a complete healing
	Muscle contracture	2-3	2
INTEGUMENTARY	Abrasions	3-5	Until a complete healing
	Wheal	2-3	Until a complete healing
	Burn.	3-5	Until a complete healing
	Non-infected sting	2-3	Until a complete healing
	Non-infected sting	3-5	Until a complete healing
	Deep wound	2-3	Until a complete healing
	Chronic wound	2-3	Until a complete healing
OTHER SYSTEMS	Phlebitis	2-3	2-3
	Disorders of the oral cavity	2-3	2-3
	Sinusitis	2-3	2-3

Pets program list

AREA	PATHOLOGY	SESSIONS/WEEK	N. OF WEEKS
MUSKULO-SKELETAL	Arthritis	3	3
	Arthrosis	3	3
	Contractures-Sprains	2-3	2
	Edema	3	2

	Spondylarthrosis	2-3	2
	Fractures	3	4
	Neuropathy	2-3	3
INTEGUMENTARY	Pododermatitis	3-5	Until a complete healing
	Deep wound	3-5	Until a complete healing
	Abscess	3-5	Until a complete healing
	Superficial wound	2-3	Until a complete healing
	Hair loss	2-3	Until a complete healing
OTHER SYSTEMS	Otitis	2-3	3
	Disorders of the oral cavity	2-3	2-3
	Urinary disorders	2-3	2-3
	Gastrointestinal disorders	2-3	2-3
	Bronchitis-pneumonia	3-5	2-3

Program List for Birds

AREA	PATHOLOGY	SESSIONS/WEEK	N. OF WEEKS
MUSKULO-SKELETAL	Contractures-Sprains	3	3
	Edema	3	2
	Fractures	3	2
	Arthritis and arthrosis	3	3
	Gout	2-3	2
	Wing traumas	2-3	2
INTEGUMENTARY	Pododermatitis	3-5	Until a complete healing
	Burn.	3-5	Until a complete healing
	Deep wound	3-5	Until a complete healing
	Lacerations	3-5	Until a complete healing
	Surgical incision	3-5	Until a complete healing
	Deplumation	2-3	3
OTHER SYSTEMS	Neuropathy	2-3	3
	Gastrointestinal disorders	2-3	2-3
	Kidney dysfunction	2-3	2-3
	Ascites	2-3	2-3

Program List for Reptiles

AREA	PATHOLOGY	SESSIONS/WEEK	N. OF WEEKS
MUSKULO-SKELETAL	Contractures-Sprains	3	3
	Fractures	3	4
	Arthritis and arthrosis	3	3
	Osteofibrosis	2-3	2
	Spondylitis	2-3	2

INTEGUMENTARY	Pododermatitis	3-5	Until a complete healing
	Burn.	3-5	Until a complete healing
	Deep wound	3-5	Until a complete healing
	Abscess	2-3	
	Lacerations	3-5	Until a complete healing
	Surgical incision	3-5	Until a complete healing
OTHER SYSTEMS	Stomatitis	2-3	3
	Ascites	2-3	2-3
	Kidney dysfunction	2-3	2-3
	Egg binding	2-3	2-3
	Vomiting and regurgitation	2-3	2

WARRANTY CONDITIONS

The device is guaranteed to the first user for twenty four (24) months from the purchase date against material or manufacturing faults, twelve (12) months if the device is used for professional purposes, provided that it is used properly and maintained under normal operating conditions.

Warranty coverage is limited in the following cases:

- six (6) months for supplied accessories subject to wear, such as batteries, battery chargers, power supply units, cables, laser handpiece.

The warranty is valid and enforceable in the country where the product was purchased. In the event that the product is purchased in an EU country, the warranty is valid in all the member states. In order to take advantage of the warranty service, the user must comply with the following warranty clauses:

1. Products have to be sent for repairs by and at the expenses of the Customer in their original packages and with full original equipment.
2. The warranty of the product is subject to the exhibition of a fiscal document (sales receipt or invoice) attesting the purchase date of the product.
3. The repair work shall have no effect on the original expiry date of the warranty and shall neither renew nor extend it.
4. If no defect is found, when it comes to carrying out the repair work, the costs of check time will be charged in any case.
5. The warranty becomes void if the flaw has been caused by: impacts, falls, misuse of the product, use of non-original power supply units or external chargers, accidental events, alteration, replacement/detachment of the warranty seals and/or tampering. Moreover, the warranty does not cover damages caused during transportation when unsuitable packages are used (see point 1).
6. The warranty does not cover the inability to use the product, other incidental or consequential costs or other expenses incurred by the purchaser.

NOTE: Before returning the device for repairs, we recommend reading carefully the user instructions in the manual and visiting the Globus website.

If you have to return the product for repair, please contact your dealer or the Globus customer service.

The manufacturer reserves the right to make all the necessary modifications at any time in order to improve the aspect and the quality of the product. The size, the features and the pictures in this handbook are not binding.



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