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medical technology

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STARLIGHT UNO

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- Manuale d'uso e manutenzione
- Use and maintenance manual
- Gebrauchs- und Wartungshandbuch
- Mode d'emploi et d'entretien
- Manual de uso y mantenimiento

IT
EN
DE
FR
ES

STARLIGHT UNO

Summary

00.1 Foreword

Before proceeding with the installation, use, maintenance or any other activities on the equipment please read this manual carefully.
Always keep this manual within easy reach.

Important: To avoid causing personal injuries or damage to property, read all the points concerning "Safety requirements" contained in this manual with particular attention.
Depending on the level of risk involved, safety requirements are classed under the following indications:
⚠ **WARNING (always referred to personal injury)**
⚠ **CAUTION (referred to possible damage to property)**

EN

The purpose of this manual is to ensure that operators are aware of the safety requirements, of the installation procedures and of the instructions for correct use and maintenance of the equipment.
The user is not authorised to tamper with the equipment under any circumstances.
If any problems are encountered, please contact a Mectron Service Centre.
Any attempts on the part of the user or any unauthorised personnel to tamper with or alter the equipment will invalidate the warranty and release the Manufacturers from any liability in respect of any harm or damage to persons or property.
The information and illustrations contained in this manual are updated as of the date of publication indicated on the last page.
MECTRON are committed to continuous up-dating of their products, which may entail changes to components of the equipment. If there are any discrepancies between the descriptions contained in this manual and your equipment, please contact your dealer or the MECTRON After-Sale service for explanations.
Using this manual for purposes other than those relating to the installation, use and maintenance of the equipment is strictly prohibited.

00.2 Description of the equipment

The *starlight uno* is an equipment for polymerising photo-hardening composites. The light source used is a very high-efficiency monochromatic LED.
Unlike traditional halogen lamps, therefore, all the light being emitted by the *starlight uno* is used to activate the camphorquinone photoinitiator. This means that it is possible to achieve excellent polymerisation performance levels using decidedly less power and without emitting heat.
The device consists of an induction charging unit with a brightness meter and a handpiece powered by a rechargeable lithium-ion battery that can be removed and replaced directly by the user.
The *starlight uno* can be used to operate in either of two emission modes:
- Constant intensity of emission - **FAST** (cycle lasting 10 seconds);
- Gradual intensity of emission - **SLOW RISE** (cycle lasting 20 seconds).

00.3 Intended use

Polymerisation of photo-hardening dental materials with a photoinitiator that can be activated in the wavelength band comprised between 440 and 480 nm with a narrow peak at 460 nm.
Although most composite materials are activated within this wavelength range, in case of uncertainty consult the specifications of the composite material.
This equipment may be used only in a dentist's surgery or out-patient's department where there are no inflammable gases (anaesthetic mixtures, oxygen, etc.).

00.4 Safety requirements

Mectron will not accept any liability for direct or incidental personal injury or damage to property in the following cases:

1 If the equipment is used for purposes other than that for which it is intended.
2 If the equipment is not used in accordance with all the instructions and requirements described in this manual.
3 If the wiring system in the room where the equipment is used does not comply with the applicable standards and appropriate requirements.
4 If any assembly operations, extensions, settings, alterations or repairs have been carried out by personnel not authorised by Mectron.
5 If the environmental conditions in which the device is kept and stored do not comply with the requirements indicated in the chapter on technical specifications.

⚠ **CAUTION:** No alterations to this device are permitted.

⚠ **CAUTION:** The wiring system of the premises on which this device is used must comply with the applicable standards and requirements.

⚠ **WARNING: Qualified and specialised personnel.**
The device must be used exclusively by specialized personnel with proper medical culture; no training activities are foreseen for the use of the device. The use of the device does not cause side effects if it is used correctly.

⚠ **WARNING: Intended use.**
Use the equipment solely for the purpose for which it is intended (see point "00.3"). Failure to comply with this requirement could lead to serious harm to the patient and/or to the operator and/or damage to/failure of the equipment.

⚠ **WARNING: Contraindications.**
Do not use this equipment on patients fitted with pace-makers or any other implantable electronic devices. This requirement applies equally to the operator.

⚠ **WARNING: Point the beam of light directly at the material to be polymerised.**
Do not use the beam of light on the gums or other soft tissues (if necessary these parts should be suitably shielded). The effect of the light should be limited to that part of the oral cavity to be clinically treated.

⚠ **WARNING: Never point the beam of light towards the eyes.**
The effect of the light should be limited to that part of the oral cavity to be clinically treated.

⚠ **WARNING: Contraindications.**
Do not use this equipment for patients who have a case history of positive reaction to stimulation by light e.g. urticaria solaris and/or porphyria, etc. or who are receiving treatment with photosensitising drugs. In all cases of possible risk consult a specialised physician.

⚠ **WARNING: Contraindications.**
Adopt strict safety measures for patients who have undergone cataract surgery and who are therefore particularly sensitive to light (e.g. protective goggles able to filter out blue light).

⚠ **WARNING: Contraindications.**
Patients who have a case history of diseases of the retina should consult their optician beforehand and be specifically authorised to receive treatment with the *starlight uno*.

⚠ **CAUTION: Photobiological safety of the curing lights and lamp systems IEC 62471.**
According to the Standard IEC 62471, the device results in risk class 2 (moderate risk) concerning a retinal risk from blue light or thermal retinal risk.
The following CAUTION indications are applied to the device package.

Risk Group 2
CAUTION. Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eye
Product tested against IEC62471

⚠ **WARNING: Cleaning, disinfection and sterilisation of new or repaired products.**
Before treatment, all new or repaired products should be cleaned and disinfected and, if suitable for this treatment, autoclave sterilised following the instructions provided under point “07.0” strictly.

⚠ **WARNING: Infection control.**
For maximum safety of the patient and of the operator, before each treatment, clean and disinfect the charging unit and the handpiece, cleane and sterilise the optical protection and replace the protective sheath. Carefully follow the instructions provided in chapter “07.0”.

⚠ **WARNING: Use only original Mectron accessories and spare parts.**

⚠ **WARNING: Checking the condition of the device before treatment.**
Before each treatment always check that the equipment is in proper working order and that the accessories are efficient. Do not carry out the treatment if any problems are encountered in operating the equipment. If the problems concern the equipment contact an authorised technical service centre.

⚠ **WARNING: Risk of explosions.**
The equipment cannot operate in environments where there are saturated atmospheres of flammable gases (anaesthetic mixtures, oxygen, etc.).

⚠ **WARNING: Do not use the charging unit to recharge other types of batteries or other equipment with rechargeable batteries.**

⚠ **CAUTION: Recharge the battery only with the Mectron charging unit (Fig.3 - Ref.A). Do not attempt to recharge the battery using a generic battery charger. This entails a risk of explosion and fire.**

⚠ **CAUTION: I**n the case that the end user, when operating in his or her own dental facility or clinic, must subject the electro-medical equipment and systems to periodical inspections in order to adhere to imposed requirements, test procedures that must be applied to electro-medical equipment and systems to evaluate safety must be performed in conformance with standard EN 62353 ‘Electro-medical devices - Periodical inspections and tests to be performed after repair interventions on electro-medical devices’.

01.1 Identification data

An exact description of the model including the serial number of the equipment will make it easier for our After-Sale Service to respond quickly and efficiently to your queries.
Always provide the above information whenever you contact a Mectron Service Centre.

01.2 Identification plate of the charging unit

Each charging unit has an identification plate (Fig.1) on which the technical specifications and the lot number are indicated. The identification plate is fixed to the underside of the equipment. The remaining data are contained in this manual (see point “11.0”).

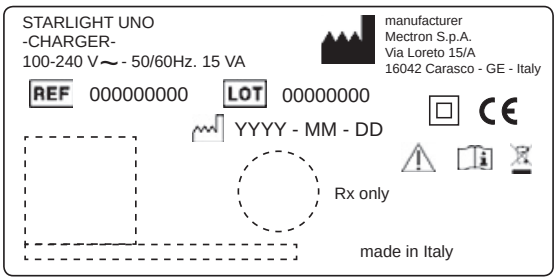

Fig. 1

01.3 Identification data of the *starlight uno* handpiece

The serial number and some symbols are marked on each *starlight uno* handpiece (Fig.2).

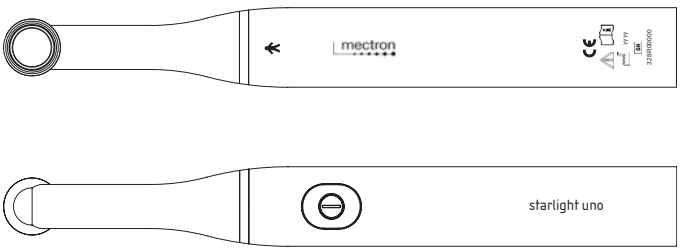

Fig. 2

01.4 *starlight uno battery module identification data*

The batch number and the technical specifications are marked on each *starlight uno* battery module the batch number and the technical specifications (Fig.3).

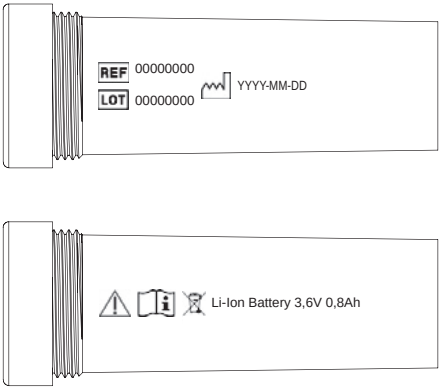

Fig. 3

02.0 Testing

02.1 Testing of the equipment

All equipment manufactured by MECTRON is thoroughly checked and tested, including all components.
During the testing procedure the components are subjected to a number of work cycles.
The tests highlight any malfunctioning due to faulty components.
This procedure ensures proper functioning and reliability of all components.

03.0 Delivery

03.1 Delivery of the equipment

The equipment contains electronic components that may be damaged by impacts even inside the packaging. Special care must therefore be taken for both transport and storage.
All material shipped by MECTRON is checked at the time of shipment.
The equipment is delivered properly protected and packaged.
At the time of receipt of the equipment check it for possible transport damage. If any damage is found, make a complaint to the carrier.

03.2 List of material included in the standard supply

1 *starlight uno* charging unit (Fig.4 - Ref.A).
1 *starlight uno* handpiece (Fig.4 - Ref.B).
1 Rechargeable lithium-ion battery module (Fig.4 - Ref.C).
1 Optical protection (Fig.4 - Ref.D).
50 Single use protective sheaths (Fig.4 - Ref.E).
1 Power supply cable for the charging unit (Fig.4 - Ref.F).

This equipment may vary at the time of promotional campaigns.

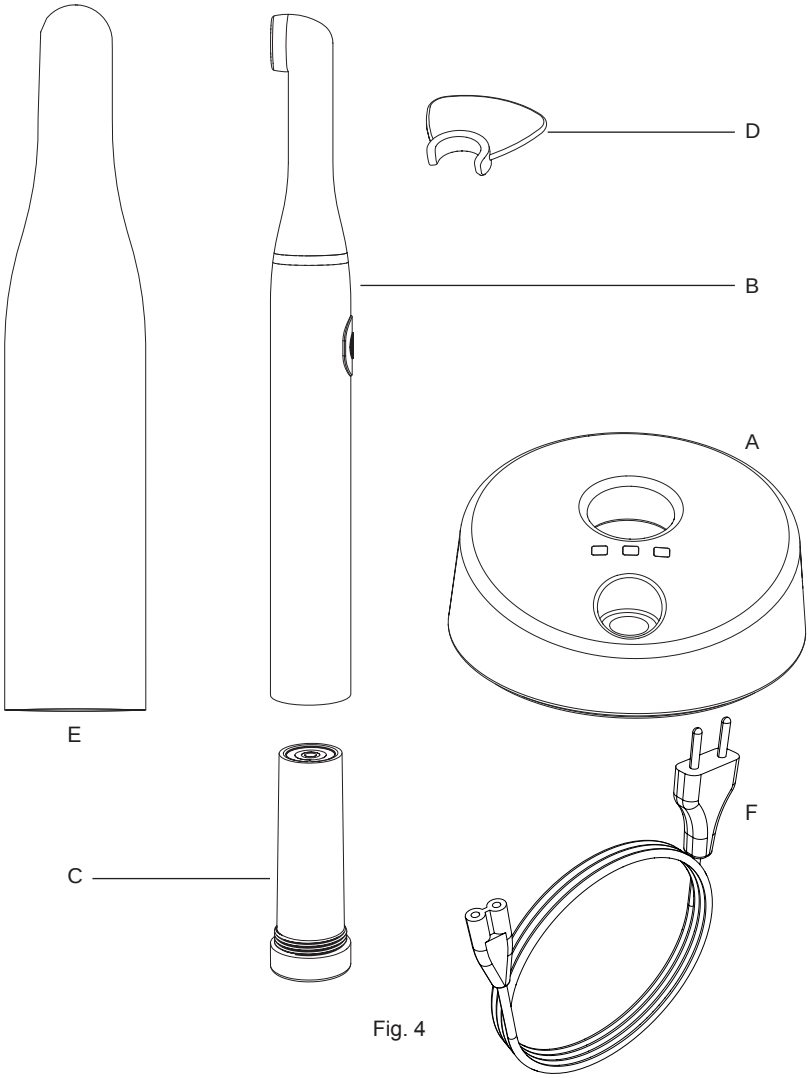

Fig. 4

04.1 Safety requirements at the time of installation

⚠ **WARNING:** The wiring system of the premises where the equipment is installed and used must comply with the applicable standards and the relevant electrical safety requirements.

⚠ **WARNING: Risk of explosion.** The equipment cannot operate in environments where there are saturated atmospheres of flammable gases (anaesthetic mixtures, oxygen, etc.).

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⚠ **WARNING:** Install the equipment in a place where it will be protected from shocks and from accidental sprays of water or other liquids.

⚠ **WARNING:** Do not install the equipment above or in the vicinity of sources of heat. Make sure that there is sufficient air circulating around the equipment.

⚠ **WARNING:** Do not insert metal objects into the handpiece of the charging unit (Fig.5 - Ref.B) when the device is on.

⚠ **CAUTION:** The equipment is transportable, however it must be handled with care when it is moved.

⚠ **CAUTION:** Do not expose the equipment to direct sunlight or to sources of UV light.

⚠ **CAUTION:** Always position the device in a way that the power plug is easily accessible at all times; this is considered a insulation means.

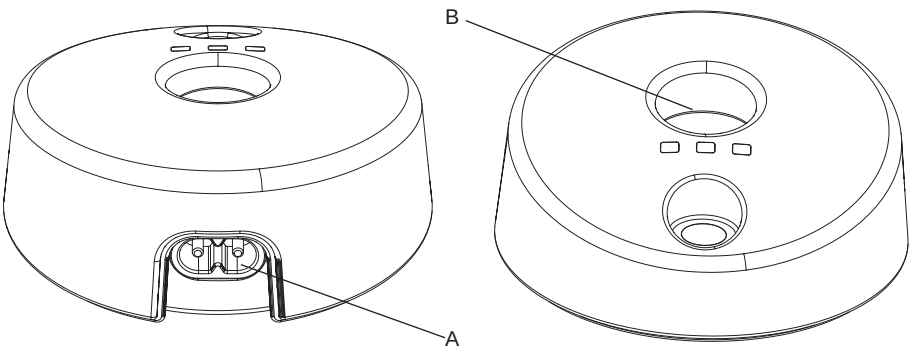

Fig. 5

04.2 Connecting the equipment

In order to make the equipment operational it is necessary to proceed as follows:

1 Place the charging unit on a flat surface.
2 Plug the power cable (Fig.4 - Ref.D) into the connector on the rear of the equipment (Fig.5 - Ref.A) and then into the power outlet. The green power LED should light up (Fig.7 - Ref.A).
3 Connect the battery module to the handpiece by tightening the nut of the battery module to the handpiece as shown in Fig.6.

⚠ **CAUTION:** Make sure that the voltage and frequency of the power-supply line match the values indicated on the identification label under the charging unit.

⚠ **WARNING:** Check the condition of the power cable regularly. If it is found to be damaged, replace it with an original Mectron spare parts.

⚠ **CAUTION:** Always position the device in a way that the power plug is easily accessible at all times; this is considered a insulation means.

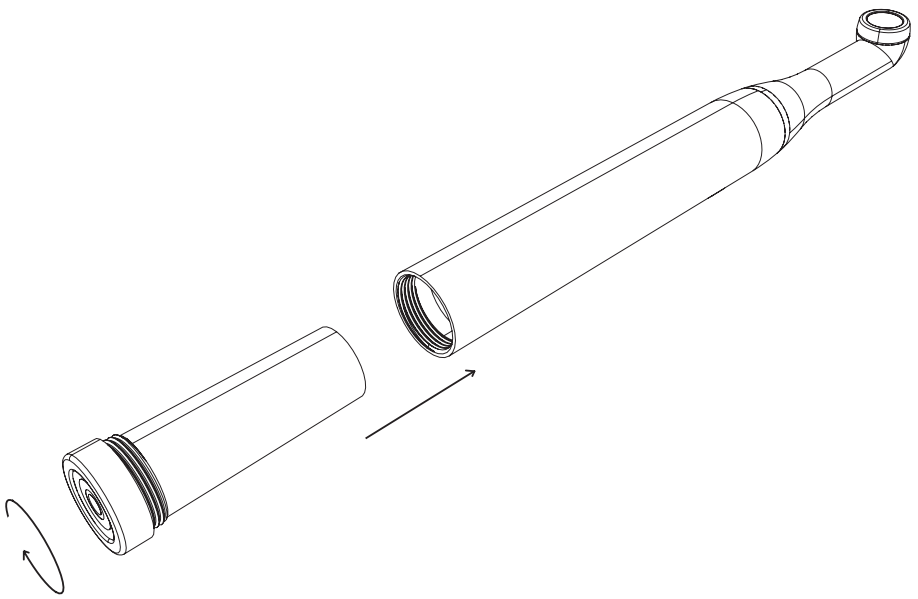

Fig. 6

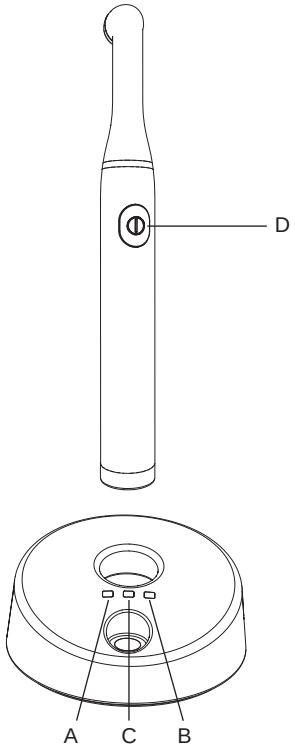

Fig. 7

04.3 Description of the controls and signalling lamps

Description of the controls (Fig. 4):

Ref. A - Green **power** LED.
Function: This indicates that the charging unit is powered up.

Ref. B - Green **battery** LED.
Function This indicate that the *starlight uno* battery is being charged.

Ref. C - **test** LED.
Function **Green:** Indicates that the light intensity is suitable for effective therapy.
Yellow: Indicates that the light intensity is insufficient.

Ref. D - **on/off** button
Function: This starts or stops a polymerisation cycle.

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Description of the acoustic and light signals of the handpiece **(Table 1)**:

Function	Button control	Acoustic signal	Light signal
FAST polymerisation	Brief pressure of **on/off** button	**1 beep** on starting exposure **1 beep** on completing exposure 10 sec.	Green LED steady on
SLOW RISE polymerisation	Pressure of **on/off** button for at least 2 seconds	**1 beep** when starting and **1 beep** after 2 sec. **1 beep** after 10 sec. of exposure **1 beep** on completing exposure 20 sec.	Yellow LED steady on
Interruption of exposure cycle	Brief pressure of **on/off** button during exposure	**1 beep**	
Battery low signal. The residual charge is sufficient for 6 cycles.		**2 beeps** on completing the exposure cycle	
Battery dead signal	Pressure of **on/off** button for FAST or SLOW RISE polymerisation	**2 beeps** - No light emission	Green and yellow LEDs flashing
Thermal protection signal		**3 beeps** at the end of FAST exposure cycle or in the middle of SLOW RISE exposure cycle and functioning interruption	Green and yellow LEDs flashing

Description of light signals of the charging unit **(Table 2)**:

Power LED	Battery LED	Test LED	Position of the handpiece in the charging unit	Function
ON	OFF		Not in place	Charging unit powered
ON	ON		In place	Battery being recharged
ON	OFF		In place	Recharging completed. Battery charged.
ON	OFF	OFF	Not in place	Luminous flux absent.
ON	OFF	Yellow ON	Not in place	Luminous flux insufficient.
ON	OFF	Green ON	Not in place	Luminous flux suitable for effective treatment.

05.0 Battery

The *starlight uno* is powered by a rechargeable lithium-ion battery already contained inside the handpiece, with no memory effect.
The *starlight uno* is equipped with two microprocessors that check the battery continuously and maintain the optimum battery charging parameters. The handpiece may therefore be placed back into the charging unit at the end of each treatment and left there, regardless of the charge of the battery.

05.1 New battery - first charging

NOTE: The battery of the *starlight uno* is supplied in a partly charged condition.

To charge the battery completely:
1 Insert the handpiece into its housing in the charging unit (Fig.5 - Ref.B). The green battery LED will light up (Fig.7 - Ref.B).
2 The charging phase has been completed when the green battery LED extinguishes.

05.2 Battery low signal

When the charge of the battery becomes low, after frequent use of the *starlight uno*, the microprocessor will allow 6 more exposures to be carried out (FAST or SLOW RISE) without any need to recharge the battery.
A battery low state is signalled at the end of each of these 6 cycles by means of 2 beeps.
Once the 6 cycles have been completed, the handpiece enters a battery dead state (see point “05.3”).
Place the *starlight uno* back into the charging unit.

05.3 Battery dead signal

The battery of the *starlight uno* is dead if no light is emitted when the **on/off** button is pressed and at the same time an acoustic signal is heard (2 beeps). Recharge the battery:
1 Place the handpiece in its housing in the charging unit (Fig.5 - Ref.B). The green battery LED will light up (Fig.7 - Ref.B).
2 When the green battery LED extinguishes the recharging phase has been completed.

05.4 Battery failed signal

When the low battery handpiece is placed in the charging unit and the battery green LED on the charging unit remains off this means that there is a fault with the battery (Fig.7 - Ref.B).
NOTE: This failure condition disables operation of the charging unit. To restore proper working conditions proceed as follows:

1 Remove the handpiece from the charging unit.
2 Cut off the power supply to the charging unit for a few seconds (disconnect the power cable) - All the LEDs will extinguish.
3 Reconnect the cable of the charging unit. The green power LED will light up.

05.5 Replacing the battery

To replace the faulty battery, unscrew the nut of the battery module, remove it and replace it with a new one (Fig.6).

05.6 Safety requirements relating to the battery

The battery can cause damage to property and/or personal injuries such as burns if conducting materials such as jewellery, keys or beaded necklaces come into contact with the exposed terminals. The conducting material could close an electrical circuit (short circuit) and become very hot. Make a habit of handling the device with care, particularly if it is placed inside a pocket, bag or other container in which there are metal objects.
In the case of contact of the terminals with metal objects and consequent short circuit, the lamp stops and it is necessary to reposition it on the battery charger to resume its operation.

⚠ WARNING: Do not insert metal objects into the handpiece of the charging unit (Fig.5 - Ref.B) when the device is on.

⚠ WARNING: Keep the battery out of the reach of children.

⚠ CAUTION: Use only original Mectron batteries.

⚠ CAUTION: Recharge the battery only with the Mectron charging unit (Fig.3 - Ref.A). Do not attempt to recharge the battery using a generic battery charger. This entails a risk of explosion and fire.

⚠ CAUTION: The battery should be recycled or disposed of in the appropriate manner in accordance with the law. The battery should not be thrown away with normal waste. The user will be liable for any damages caused by improper disposal of the battery.

⚠ CAUTION: Do not use the battery for purposes other than those for which it is intended.

⚠ CAUTION: Do not open, pierce or crush the battery. It contains toxic substances.

⚠ CAUTION: Do not burn the battery or expose it to a high temperature. There is a risk of explosion.

⚠ CAUTION: Do not short-circuit the battery terminals. This could cause burns and fire.

06.1 Connecting the accessories

⚠ **WARNING: Check the condition of the device before the treatment.**
Before each treatment, always make sure that the equipment is working properly and check the efficiency of the accessories. If any improper functioning is noted, do not proceed with the treatment. If the problem concerns the equipment contact an authorised technical assistance centre.

⚠ **WARNING: Infections control.**
For maximum safety of the patient and of the operator, before each treatment, clean and disinfect the charging unit and the handpiece, cleanse and sterilise the optical protection and replace the protective sheath. Carefully follow the instructions provided in chapter “07.0”.

⚠ **WARNING:** The protective sheaths are single use. Each protective sheath must be used for one application only on a single patient.

Before using the *starlight uno*, the following are necessary:
1 Ensure the battery module is correctly connected to the handpiece;
2 Insert the single use protective sheath onto the handpiece (Fig.8 - Ref.A);
3 Fix the optical protection onto the handpiece (Fig.8 - Ref.B).

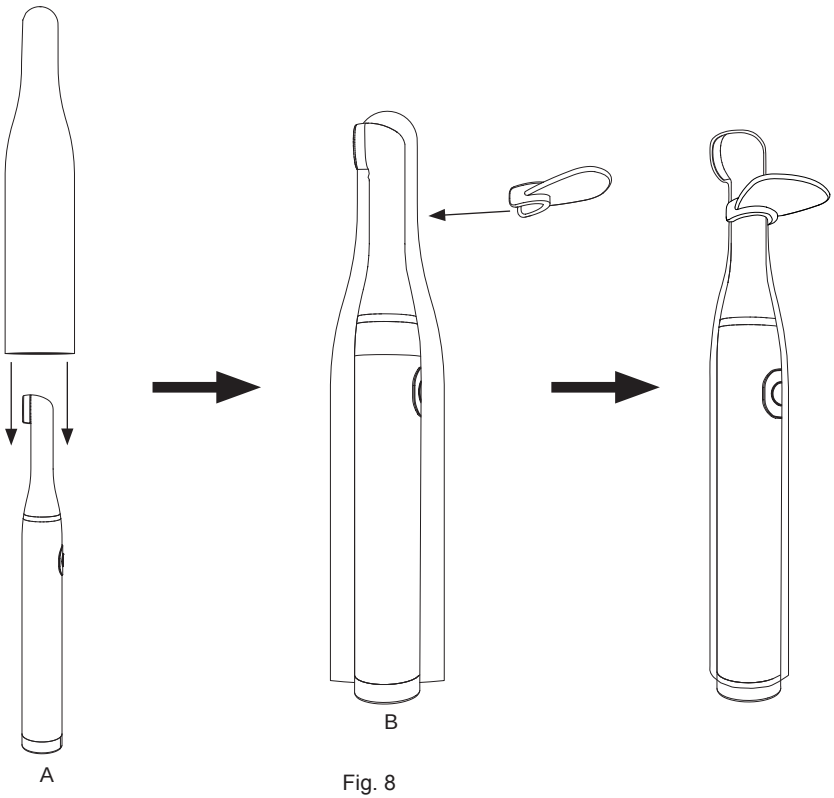

Fig. 8

06.2 Safety requirements during use

⚠ **WARNING: Never point the beam of light in the direction of the eyes.**

⚠ **WARNING: Before each cycle of exposure always make sure that the optical protection has been fitted onto the handpiece.**

⚠ **WARNING: Point the beam of light directly onto the material to be polymerised.**
Do not subject the gum or other soft tissues to the beam of light (shield these parts suitably if necessary). The effect of the light should be limited to the oral cavity and in particular to the sector requiring clinical treatment.

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⚠ **WARNING:** Do not insert metal objects into the handpiece of the charging unit (Fig.5 - Ref.B) when the device is on.

⚠ **CAUTION: During the first few seconds of exposure avoid contact of the tip with the material to be polymerised.**
Deposits of composite material adhering to and polymerised to the tip terminal surface lower the amount of light transmitted and will therefore prejudice subsequent polymerisation operations.

06.3 Instructions for use

The *starlight uno* can be used in two different modes:
- **FAST:** exposure time of 10 seconds at the maximum light intensity.
- **SLOW RISE:** exposure time 20 seconds with a gradual increase of the light intensity during the first 3 seconds up to the maximum intensity.

Selecting the FAST exposure mode.
- To start the FAST exposure cycle press the **on/off** button on the handpiece briefly (Fig.7 - Ref.D). An acoustic signal will be heard (1 beep) and the green LED on the handpiece will light up.
- After 10 seconds an acoustic signal will be heard (1 beep) and the green LED on the handpiece will go out. The FAST cycle has been completed.

Selecting the SLOW RISE exposure mode.
- To start the SLOW RISE exposure cycle hold the **on/off** button on the handpiece down for 2 seconds (Fig.7 - Ref.D). At the start an acoustic signal will be heard and after 2 seconds another acoustic signal to confirm the SLOW RISE cycle beginning. The yellow LED on the handpiece will light up.
- After 10 seconds an acoustic signal will be heard (1 beep).
- After 20 seconds an acoustic signal will be heard (1 beep)) and the yellow LED on the handpiece will go out. The SLOW RISE cycle has been completed.

After the end of the treatment, remove the protective sheath used and place the *starlight uno* handpiece back into the charging unit (Fig.5 - Ref.B).

NOTE: Interrupting the cycle.
Both in the FAST and in the SLOW RISE mode, the exposure cycle can be broken off at any time by pressing the **on/off** button on the handpiece (Fig.7 - Ref.D).

NOTE: Additional exposure cycles.
At the end of any exposure cycle, it is possible to carry out one or more additional cycles by pressing the **on/off** button on the handpiece again each time (Fig.7 - Ref.D).

For a quick guide to the signalling, see Tables 1 and 2.

06.4 Measuring the light intensity

To determine whether the light intensity is sufficient:
1 Place the tip (Fig.7 - Ref.A) flat on the surface of the light-intensity sensor without pressing it (Fig.7 - Ref.B);
2 Press the **on/off** button (Fig.7 - Ref.C) to switch on the lamp.

The test LED (Fig.7 - Ref.D) will indicate the working luminous flux measured:
- **Green =** luminous flux suitable for effective treatment;
- **Yellow =** luminous flux insufficient.

⚠ **CAUTION:** If the working luminous flux is not sufficient, do not proceed with the treatment on the patient and carry out the following checks:
1 Check that the tip is not dirty;
2 Clean the tip (see point 7.1 - Cleaning and disinfecting the handpiece and the charging unit);

If these measures do not lead to improved performance, place the device out of commission (by disconnecting it from the mains) and make sure that it cannot be started by unauthorised persons. Any repair work on the device should be carried out by an authorised Mectron service centre.

06.5 Safety protection

In the event of extremely heady duty use, with long and repeated exposure cycles, a thermal protection device is triggered automatically. An acoustic signal (3 beeps) will be heard. This protection device will temporarily prevent use of the lamp for a few minutes. The yellow and green LEDs flash.

07.0 Cleaning, disinfection and sterilisation

This table is purely indicative.
For the complete cleaning, disinfecting and sterilization procedures of the individual parts, refer to the paragraphs indicated in the table.

⚠ **CAUTION:** All the phases indicated in the following table must be performed, avoiding using methods not referred to in that table.

⚠ **WARNING**: The protective sheaths are single use. Each protective sheath must be used for one application only on a single patient.

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Phase	Paragraph	Procedure	Handpiece	Charging unit	Optical protection
I	07.1	Manual cleaning with detergent solution and disinfecting agent	X	X	
II	07.2.1	Immersion into enzymatic detergent			X
III	07.2.2	Check cleaning			X
IV	07.2.3	Drying			X
V	07.2.4	Sterilisation			X

07.1 Cleaning and disinfection of the handpiece and the charging unit

⚠ **WARNING: Switch off the charging unit.**
Before carrying out any cleaning and disinfection, disconnect the charging unit from the mains power supply.

PREPARATION
- Remove the handpiece from the charging unit;
- Remove the optical protection from the handpiece;
- Remove the protective sheath from the handpiece.

MATERIALS NECESSARY
- Clean, soft cloths with low fiber-release;
- Detergent solution (pH 6-9);
- Demineralised water;
- Disinfectant agent (Glutaraldehyde, Ghlorhexidine gluconate or Isopropyl alcohol 70%).

CLEANING METHOD
1 Clean the surface of the charging unit and the handpiece with a clean, soft and low fibre release cloth, dampened with a cleaning solution (pH 6-9) prepared according to the manufacturer's instructions;
2 Clean the surface of the charging unit and the handpiece with a clean, soft and low fibre release cloth, dampened with demineralised water to remove all residues of the cleaning solution;

3 Dry the surface of the charging unit and the handpiece with a clean, soft and low fibre release cloth;
4 If you intend to disinfect, spray the disinfecting agent onto a clean, soft and low fibre release cloth and clean the surface of the charging unit and of the handpiece.

⚠ **CAUTION:** Do not use as disinfecting agents:
- Very alkaline products (pH > 9);
- Products containing sodium hypochlorite;
- Products containing hydrogen peroxide;
- Products containing abrasive substances;
- Acetone;
- Methylethylketone.

as they can discolour and/or damage the plastic materials.

⚠ **CAUTION:** Contact of liquid with the lamp terminals can cause damage and therefore voids the warranty.

⚠ **CAUTION:** Contact of liquid with the LED causes damage and therefore voids the warranty.

⚠ **CAUTION:** Do not spray liquid directly onto the surface of the charging unit and/or of the handpiece.

⚠ **CAUTION:** The casing of the charging unit and/or the handpiece are not protected against the entry of liquids.

⚠ **CAUTION:** The charging unit and the handpiece should not be sterilised.

07.2 Cleaning and sterilisation of the optical protection

07.2.1 Manual cleaning

⚠ **CAUTION:** The only part of the device that can be sterilised is the optical protection.

MATERIALS NECESSARY
- Clean, soft cloths with low fiber-release;
- Enzymatic detergent at pH 6-9;
- Water;
- Container for immersion in the enzymatic liquid;
- Brush with soft nylon bristles.

⚠ **CAUTION:** Do not use sharp-edged objects to clean the optical protection.

CLEANING METHOD
1 Prepare an enzymatic detergent solution with pH 6-9, as per the instructions of the manufacturer;
⚠ **CAUTION:** Once used, dispose of the enzymatic detergent correctly, do not recycle it.
2 Place the optical protection horizontally in a clean container and add enzymatic detergent solution until the optical protection is covered completely;
3 Let the optical protection soak for 10 minutes at 40°C ±2°C;
4 During immersion in the enzymatic solution, delicately brush the surface of the optical protection using the brush with soft nylon bristles to eliminate all traces of visible dirt;
5 Delicately brush the surface of the optical protection under running water using the brush with soft nylon bristles;

⚠ **CAUTION:** Do not use as disinfecting agents:
- Very alkaline products (pH > 9);
- Products containing sodium hypochlorite;
- Products containing hydrogen peroxide;
- Products containing abrasive substances;
- Acetone;
- Methylethylketone.

as they can discolour and/or damage the plastic materials

07.2.2 Check cleaning

Once the cleaning operations have been completed, visually inspect the optical protection under an adequate source of light, if necessary using a magnifying glass 2.5X, paying attention to the details that could conceal dirt residue (threading, cavities, grooves) and, if necessary, repeat the cleaning cycle if dirt is still visible. Finally, check the integrity of those parts and those elements that could have deteriorated during use.

07.2.3 Drying

Thoroughly dry all parts of the optical protection with a soft low fibre release cloth, possibly blowing with compressed air.

07.2.4 Sterilisation

⚠ **CAUTION: Carry out sterilisation only in a steam autoclave.** Do not use any other sterilisation procedures (dry heat, radiation, ethylene oxide, gas, low-temperature plasma, etc.).

⚠ **CAUTION:** The optical protections are made from materials able to withstand a maximum temperature of 135°C for a maximum period of 20 minutes.

⚠ **WARNING: Infections control - Sterilisable parts.**
To avoid infection by bacteria or viruses, carefully remove any remaining organic dirt prior to sterilisation.

STERILISATION PROCEDURE
Seal the optical protection individually in a disposable bag for sterilisation and proceed with the process of sterilisation in a steam autoclave.
The sterilization process, in a steam autoclave, guarantees SAL 10^{-6} by setting the parameters indicated below:
- Type of cycle: 3 times Pre-vacum (pressione min. 60 mBar).
- Minimum sterilisation temperature: 132 °C (interval 0 °C ÷ +3 °C).
- Minimum sterilisation time: 4 minutes.
- Minimum drying time: 10 minutes.

All the stages of sterilisation must be carried out by the operator in accordance with UNI EN ISO 17665-1:2007, UNI EN ISO 556-1:2002 and ANSI/AAMI ST 46:2002.

08.0 Disposal procedures and precautions

- ⚠ **CAUTION: This device contains a LITHIUM-ION battery.** The battery must be disposed of and treated as waste requiring separate collection;
- This equipment must be disposed of and treated as waste requiring separate collection;
- At the end of the life-cycle of this equipment, the purchaser is entitled to return the equipment to the dealer supplying new equipment. Instructions for disposal are available from Mectron S.p.A.;
- Failure to comply with the foregoing points may entail punishment in accordance with Directive about *waste of electrical and electronic equipment WEEE*.

⚠ **WARNING: Hospital waste.**
Treat the following items as hospital waste:
- Optical protection, when worn or broken;
- Protective sheath, at the end of each application.


CAUTION, See instructions for use


Consult operating instructions


Type “B” applied part in conformity with technical norm IEC/EN 60601-1


Manufacturer


Class II apparatus


Alternate current

Non sterile

Can be sterilised in autoclave up to a maximum temperature of 135 °C


Symbol ISO 7010-W001
Generic CAUTION symbol

Serial number

Lot number

Catalogue number


Date of manufacture


Temperature limitation - transport and storage conditions


Humidity limitation - transport and storage conditions


Atmospheric pressure limitation - transport and storage conditions


The device and its accessories must not be disposed of or treated as solid urban waste


Do not re-use

Nemko Mark

Conformity to norms UL - CSA


Device manufactured in conformity with directive 93/42/EEC including technical norms EN 60601-1 and EN 60601-1-2.

10.0 Problem-solving

If the equipment appears not to be working correctly, read the instructions again and then check the following table.

PROBLEM	POSSIBLE CAUSE	SOLUTION
The charging unit does not switch on (none of the LEDs will light up).	The power cable is not connected correctly.	Connect the cable both to the charging unit and to the wall socket.
	The power cable is faulty.	Replace the power cable.
	The charging unit is out of order.	Contact an authorised MECTRON technical assistance centre.
There is no beam of light when the **on/off** button of the *starlight uno* is pressed and an acoustic signal is heard (2 beeps).	Battery dead.	Recharge the battery. See point “05.3”.
An acoustic signal is heard ad the end of the exposure cycle (2 beeps).	Battery low.	Recharge the battery. See point “05.2”.
An acoustic signal (3 beeps) is heard during the exposure cycle and at the end of the cycle *starlight uno* will not enable any further treatment to be carried out.	The thermal protection has been activated.	It will be possible to use the equipment only after it has cooled down.
The polymerisation is insufficient.	The terminal surface of the tip is soiled.	See point “07.5”.
An acoustic signal is heard (4 beeps) and there is no beam of light.	Hardware failure.	Contact an authorised MECTRON technical assistance centre.

11.0 Technical specifications

This equipment complies with Directive 93/42/EEC: Class I

Class according to IEC/EN 60601-1:
II
Applied part type B (Tip)
IP 20 (Charging unit)
IP 20 (Handpiece)

Essential performances:
According to Standard IEC 80601-2-60 the device does not have essential performances

EN

Charging station:
Model *starlight uno* -CHARGER-

Charging station power supply requirements: 100-240 V~ 50/60 Hz 15 VA

Power supply of *starlight uno* handpiece:
Rechargeable Lithium-ion battery.
Manufacturer: Panasonic. Model: UR-14500.
Nominal Voltage: 3.6 V
Nominal capacity (Typical): 840 mAh

Handpiece for intermittent operation:
60" ON 60" OFF Max 3 times running

Source of light:
High luminosity LED with opti.
Dominant wave length: 440 - 465 nm LED in class 2 (IEC 62471) retinal risk from blue light or thermal retinal risk.

Esposure:
FAST: Exposure time 10 seconds
- Acoustic signals indicating start and end of exposure.
SLOW RISE: Exposure time 20 seconds
- Acoustic signal at the start, after 10 seconds and at the end of the 20 seconds.
The cycles can be stopped or repeated at any time.

Time required to recharge a dead battery:
About 4 hours.
Ch: CC-CV 200mA ±10% 4,20V ±1%

Operating conditions:
from 10 °C to 35 °C
Relative Humidity from 45% to 85%
Air pressure P: 800 hPa/1060 hPa

Transport and storage conditions:
from -20 °C to 40 °C
Relative Humidity from 45% to 85%
Air pressure P: 500 hPa/1060 hPa

Weights and dimensions:
Charging unit: Weight 108 g
93 x 93 x 40 mm
starlight uno handpiece: Weight 77 g
L 190 mm Max. Ø 21 mm

11.1 Electromagnetic compatibility IEC/EN 60601-1-2

⚠ **WARNING:** The device requires specific EMC precautions and must be installed and started up in accordance with the EMC information given in this paragraph.

⚠ **WARNING:** Portable and mobile radio communication appliances may affect the correct functioning of the device.

Guidance and manufacturer's declaration - Electromagnetic emissions		
The *starlight uno* is intended for use in the electromagnetic environment specified below. The customer or the user of the *starlight uno* should assure that it is used in such an environment.		
Emissions test	**Compliance**	**Electromagnetic environment - Guidance**
RF emissions CISPR 11	Group 1	The *starlight uno* uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The *starlight uno* is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations / flicker emissions IEC 61000-3-3	Complies	

Guidance and manufacturer's declaration - Elettromagnetic immunity

Enclosure port

The *starlight uno* device is designed to work in the electromagnetic environment specified below. The client or user of the *starlight uno* device should always make sure that it is used only in such environment.

Phenomenon	Basic EMC standard or test method	Immunity test levels	Electromagnetic environment - Guidance
Electrostatic discharge (ESD)	IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	Floors must be wood, concrete or ceramic. If the floor is lined with synthetic materials, the relative humidity should be at least 30 %
Radiated RF EM fields [a]	IEC 61000-4-3	3 V/m [f] 80 MHz - 2,7 GHz [b] 80 % AM at 1 kHz [c]	Portable or mobile RF communication device must not be used in close proximity of the product, including its cables, except when these respect the distances of separation recommended and calculated from the equation applicable to the frequency of the transmitter.
Rated power frequency magnetic fields [d] [e]	IEC 61000-4-8	30 A/m [g] 50 Hz or 60 Hz	Grid frequency magnetic fields should have levels characteristic of a typical commercial or hospital environment.

[a] The interface between the PATIENT physiological signal simulation, if used, and the *starlight uno* shall be located within 0, 1 m of the vertical plane of the uniform field area in one orientation of the *starlight uno.*

[b] *starlight uno* that intentionally receive RF electromagnetic energy for the purpose of their operation shall be tested at the frequency of reception. Testing may be performed at other modulation frequencies identified by the RISK MANAGEMENT PROCESS. This test assesses the BASIC SAFETY and ESSENTIAL PERFORMANCE of an intentional receiver when an ambient signal is in the passband. It is understood that the receiver might not achieve normal reception during the test.

[c] Testing may be performed at other modulation frequencies identified by the RISK MANAGEMENT PROCESS.

[d] Applies only to *starlight uno* with magnetically sensitive components or circuitry.

[e] During the test, the *starlight uno* may be powered at any NOMINAL input voltage, but with the same frequency as the test signal.

[f] Before modulation is applied.

[g] This test level assumes a minimum distance between the *starlight uno* and sources of power frequency magnetic field of at least 15 cm. If the RISK ANALYSIS shows that the *starlight uno* will be used close than 15 cm to sources of power frequency magnetic field, the IMMUNITY TEST LEVEL shall be adjusted as appropriate for the minimum expected distance.

Guidance and manufacturer's declaration - Elettromagnetic immunity

Input a.c. power port

The *starlight uno* device is designed to work in the electromagnetic environment specified below. The client or user of the *starlight uno* device should always make sure that it is used only in such environment.

Phenomenon	Basic EMC standard or test method	Immunity test levels	Electromagnetic environment - Guidance
Electrical fast transients / bursts [a) l) o)]	IEC 61000-4-4	±2 kV contact 100 KHz repetition frequency	The quality of the power supply should be that of a typical commercial or hospital environment.
Surges Line-to-line [a) b) j) o)]	IEC 61000-4-5	± 0,5 kV, ± 1 kV	The quality of the power supply should be that of a typical commercial or hospital environment.
Surges Line-to-ground [a) b) j) k) o)]	IEC 61000-4-5	± 0,5 kV, ± 1 kV, ± 2kV	The quality of the power supply should be that of a typical commercial or hospital environment.
Conducted disturbances induce by RF fields [c) d) o)]	IEC 61000-4-6	3 V [m)] 0,15 MHz - 80 MHz 6 V [m)] in ISM bands between 0,15 MHz and 80 MHz [n)] 80 % AM at 1 KHz [e)]	Portable or mobile RF communication device must not be used in close proximity of the product, including its cables, except when these respect the distances of separation recommended and calculated from the equation applicable to the frequency of the transmitter.
Voltage dips [f) p) r)]	IEC 61000-4-11	0% U_T; 0,5 cycle [g)] At 0°, 45°, 90°, 135°, 180°, 225°, 270° and 315°	The quality of the power supply should be that of a typical commercial or hospital environment.
		0 % U_T; 1 cycle and 70 % U_T; 25/30 cycles [h)] Single phase: at 0°	
Voltage interruptions [f) i) o) r)]	IEC 61000-4-11	0% U_T; 250/300 cycle [h)]	The quality of the power supply should be that of a typical commercial or hospital environment.

[a)] The test may be performed at any one power input voltage within the *starlight uno* RATED voltage range. If the *starlight uno* is tested at one power input voltage, it is not necessary to re-test at additional voltages.

[b)] All *starlight uno* cables are attached during the test.

[c)] Calibration for current injection clamps shall be performed in a 150 Ω system.

[d)] If the frequency stepping skips over an ISM or amateur band, as applicable, an additional test frequency shall be used in the ISM or amateur radio band. This applies to each ISM and amateur radio band within the specified frequency range.

[e)] Testing may be performed at other modulation frequencies identified by the RISK MANAGEMENT PROCESS.

[f)] *starlight uno* with a d.c. power input intended for use with a.c.-to-d.c. converters shall be tested using a converter that meets the specifications of the MANUFACTURER of the *starlight uno*. The IMMUNITY TEST LEVELS are applied to the a.c. power input of the converter .

[g)] Applicable only to *starlight uno* connected to single-phase a.c. mains.

[h)] E.g. 10/12 means 10 periods at 50 Hz or 12 periods at 60 Hz.

[i)] *starlight uno* with RATED input current greater than 16 A / phase shall be interrupted once for 250/300 cycles at any angle and at all phases at the same time (if applicable). *starlight uno* with battery backup shall resume line power operation after the test. For *starlight uno* with RATED input current not exceeding 16 A, all phases shall be interrupted simultaneously.

[j] *starlight uno* that do not have a surge protection device in the primary power circuit may be tested only at ± 2 kV line(s) to earth and ± 1 kV line(s) to line(s).

[k] Not applicable to CLASS II *starlight uno*.

[l] Direct coupling shall be used.

[m] r.m .s. , before modulation is applied.

[n] The ISM (industrial scientific and medical) bands between 0,15 MHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0, 15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz.

[o] Applicable to *starlight uno* with RATED input current less than or equal to 16 A / phase and *starlight uno* with RATED input current greater than 16 A / phase.

[p] Applicable to *starlight uno* with RATED input current less than or equal to 16 A / phase.

[q] At some phase angles, applying this test to *starlight uno* with transformer mains power input might cause an overcurrent protection device to open. This can occur due to magnetic flux saturation of the transformer core after the voltage dip. If this occurs, the *starlight uno* shall provide BASIC SAFETY during and after the test.

[r] For *starlight uno* that have multiple voltage settings or auto ranging voltage capability, the test shall be performed at the minimum and maximum RATED input voltage. *starlight uno* with a RATED input voltage range of less than 25 % of the highest RATED input voltage shall be tested at one RATED input voltage within the range.

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Guidance and manufacturer's declaration - Elettromagnetic immunity

Patient coupling port

The *starlight uno* device is designed to work in the electromagnetic environment specified below. The client or user of the *starlight uno* device should always make sure that it is used only in such environment.

Phenomenon	Basic EMC standard or test method	Immunity test levels	Electromagnetic environment - Guidance
Electrostatic discharge (ESD) [c]	IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	Floors must be wood, concrete or ceramic. If the floor is lined with synthetic materials, the relative humidity should be at least 30 %
Conducted disturbances induce by RF fields [a]	IEC 61000-4-6	3 V [b] 0,15 MHz - 80 MHz 6 V [b] in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 KHz	Portable or mobile RF communication device must not be used in close proximity of the product, including its cables, except when these respect the distances of separation recommended and calculated from the equation applicable to the frequency of the transmitter.

[a] The following apply:

- All PATIENT-COUPLED cables shall be tested, either individually or bundled
- PATIENT-COUPLED cables shall be tested using a current clamp unless a current clamp is not suitable. In cases where a current clamp is not suitable, an EM clamp shall be used.
- No intentional decoupling device shall be used between the injection point and the PATIENT COUPLING POINT in any case.
- Testing may be performed at other modulation frequencies identified by the RISK MANAGEMENT PROCESS.
- Tubes that are intentionally filled with conductive liquids and intended to be connected to a PATIENT shall be considered to be PATIENT-COUPLED cables.
- If the frequency stepping skips over an ISM or amateur radio band, as applicable, an additional test frequency shall be used in the ISM or amateur radio band. This applies to each ISM and amateur radio band within the specified frequency range.
- The ISM (industrial, scientific and medical) bands between 0,15 MHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0, 15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18, 17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29, 7 MHz and 50,0 MHz to 54,0 MHz.

[b] r.m.s., before modulation is applied

[c] Discharges shall be applied with no connection to an artificial hand and no connection to PATIENT simulation. PATIENT simulation may be connected after the test as needed in order to verify BASIC SAFETY and ESSENTIAL PERFORMANCE.

Guidance and manufacturer's declaration - Elettromagnetic immunity

Signal input / output parts port

The *starlight uno* device is designed to work in the electromagnetic environment specified below. The client or user of the *starlight uno* device should always make sure that it is used only in such environment.

Phenomenon	Basic EMC standard or test method	Immunity test levels	Electromagnetic environment - Guidance
Electrostatic discharge (ESD) [e]	IEC 61000-4-2	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	Floors must be wood, concrete or ceramic. If the floor is lined with synthetic materials, the relative humidity should be at least 30 %
Electrical fast transients / bursts [b] [f]	IEC 61000-4-4	±1 kV contact 100 KHz repetition frequency	The quality of the power supply should be that of a typical commercial or hospital environment.
Surges Line-to-ground [a]	IEC 61000-4-5	± 2kV	The quality of the power supply should be that of a typical commercial or hospital environment.
Conducted disturbances induce by RF fields [b] [d] [g]	IEC 61000-4-6	3 V [h] 0,15 MHz - 80 MHz 6 V [h] in ISM bands between 0,15 MHz and 80 MHz [i] 80 % AM at 1 KHz [c]	Portable or mobile RF communication device must not be used in close proximity of the product, including its cables, except when these respect the distances of separation recommended and calculated from the equation applicable to the frequency of the transmitter.

[a] This test applies only to output lines intended to connect directly to outdoor cables.

[b] SIP/SOPS whose maximum cable length is less than 3 m in length are excluded.

[c] Testing may be performed at other modulation frequencies identified by the RISK MANAGEMENT PROCESS.

[d] Calibration for current injection clamps shall be performed in a 150 Ω system.

[e] Connectors shall be tested per 8.3.2 and Table 4 of IEC 61000-4-2:2008. For insulated connector shells, perform air discharge testing to the connector shell and the pins using the rounded tip finger of the ESD generator, with the exception that the only connector pins that are tested are those that can be contacted or touched, under conditions of INTENDED USE, by the standard test finger shown in Figure 6 of the general standard, applied in a bent or straight position.

[f] Capacitive coupling shall be used.

[g] If the frequency stepping skips over an ISM or amateur radio band, as applicable, an additional test frequency shall be used in the ISM or amateur radio band. This applies to each ISM and amateur radio band within the specified frequency range.

[h] r.m.s., before modulation is applied.

[i] The ISM (industrial, scientific and medical) bands between 150 kHz and 80 MHz are 6, 765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0, 15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz.

Test specifications for enclosure port immunity to RF wireless communications equipment

The *starlight uno* device is designed to work in an electromagnetic environment in which RF radiated disturbances are kept under control. The purchaser or user of the *starlight uno* device can contribute to prevent electromagnetic interference by ensuring a minimum distance between the RF mobile and cordless communication device (transmitters) and the *starlight uno* device, as recommended below, in relation to the maximum output power of the radio-communication devices.

Test frequency (MHz)	Band [a] (MHz)	Service [a]	Modulation [b]	Maximum power (W)	Distance (m)	Immunity test level (V/m)
385	380 - 390	TETRA 400	Pulse modulation [b] 18 Hz	1,8	0,3	27
450	430 - 470	GMRS 460, FRS 460	FM [c] ± 5 kHz deviation 1 kHz sine	2	0,3	28
710	704 - 787	LTE Band 13, 17	Pulse modulation [b] 217 Hz	0,2	0,3	9
745						
780						
810	800 - 960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation [b] 18 Hz	2	0,3	28
870						
930						
1720	1700 - 1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation [b] 217 Hz	2	0,3	28
1845						
1970						
2450	2400 - 2570	Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7	Pulse modulation [b] 217 Hz	2	0,3	28
5420	5100 - 5800	WLAN 802.11 a/n	Pulse modulation [b] 217 Hz	0,2	0,3	9
5500						
5785						

NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the *starlight uno* may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

[a] For some services, only the uplink frequencies are included.

[b] The carrier shall be modulated using a 50 % duty cycle square wave signal.

[c] As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

⚠ **WARNING:** Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the *starlight uno* device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.

12.0 Warranty

Before being placed on the market, all Mectron equipment undergoes a thorough final check to ensure that it is are in proper working order.
Mectron warrant their products, purchased brand-new from authorised Mectron dealers or importers, free from material or manufacturing defects for a period of 3 (THREE) years for the handpiece and 1 (ONE) years for the battery module from the date of purchase.
Throughout the warranty period, Mectron undertake to repair (or, at their sole discretion, to replace) free of charge any parts that, in their opinion, are faulty.
Complete replacement of Mectron products is excluded.
Mectron cannot accept any liability for direct or incidental damage or personal injury in the following cases:

- If the equipment is used for purposes other than that for which it is intended.
- If the equipment is not used in accordance with all the instructions and requirements described in this manual.
- If the wiring system in the room where the equipment is used does not comply with the applicable standards and appropriate requirements.
- If the wiring system in the room where the equipment is used does not comply with the applicable standards and appropriate requirements.
- If any assembly operations, extensions, settings, alterations or repairs have been carried out by personnel not authorised by Mectron.
- If the environmental conditions in which the device is kept and stored do not comply with the requirements indicated in the chapter on technical specifications.

Accidental damages due to transport, incorrect use or carelessness or to connection to power supplies other than as envisaged and damage to the signalling lamps, handpieces and all accessories are excluded from the warranty.
The warranty will no longer apply if the equipment has been tampered with or repaired by unauthorised personnel.

CAUTION

The warranty is valid only if the warranty slip enclosed with the product has been completed in full and returned to us or, if appropriate, to your Mectron dealer or importer within 20 (TWENTY) DAYS from the date of purchase, as proven by the consignment note/invoice issued by the dealer/importer.
In order to benefit from the warranty service, the customer must return the equipment to be repaired to the Mectron dealer/importer from which it was purchased, at his own expense.
The equipment should be returned suitably packed (possibly in its original packing material), accompanied by all the accessories and by the following information:

a) Owner's details, including his telephone number.
b) Details of the dealer/importer.
c) Photocopy of the consignment note/purchase invoice of the equipment issued to the owner and indicating, in addition to the date, also the name of the equipment and its serial number.
d) A description of the problem.

Transport and any damages caused during transport are not covered by the warranty.
In the event of failures due to accidents or improper use, or if the warranty has lapsed, repairs to Mectron products will be charged on the basis of the actual cost of the materials and labour required for such repairs.

The indications that appear in this publication are not binding and can be modified without fore-notice.
The Italian version of this manual is the original document from which its translations have been obtained. In case of any discrepancy, the Italian version will have pertinence.