SET™

USER MANUAL IN ENGLISH

Portable, compact, easy-to-use devices that effectively respond to an even broader range of physical rehabilitation care, thanks to our close and constant collaboration with health care professionals and their patients.

Stim-Medic-030

INSTRUCTIONS BEFORE OPERATING

NMES TENS

STIMULATES and RELIEVES
a readaption at arms reach

5-YEAR WARRANTY

All SERVICE D'ÉLECTRO-THÉRAPIE devices come with a 5-year warranty that starts on the date of purchase.

THE SERVICE D'ÉLECTRO-THÉRAPIE WARRANTY applies only to the device, does not cover any accessories (wires, batteries, charger), which are covered by a 3-month warranty.

Collaboration
BEFORE USING THE STIMULATOR
INTRODUCTION

SERVICE D'ÉLECTRO-THÉRAPIE (SET), expert in Electrotherapy using **TENS** and **NMES**, presents its new muscle stimulator, the **STIM-MEDIC**

1.1

SERVICE D'ELECTRO-THERAPIE (SET), more than 25 years of expertise. SET is a canadian (Quebec) company that specializes in electrotherapie, with the TENS treatment for managing and relieving pain at home.

Portable, compact, easy-to-use devices that effectively respond to an even broader range of physical rehabilitation care,

thanks to our close and constant collaboration with health care professionals and their patients.

An electrotherapy culture meticulously designed for muscular rehabilitation and the significant reduction of chronic, sports-related, post-operative, and post-traumatic pain, and more.

A medically recognized therapy technique used both by health care professionals in a clinical setting and by patients at home to ensure that the gains made in the clinic are maintained.

NERVE STIMULATION
Its uses and benefits
Medical Context

1.2
NMES
TENS

NMES

Neuromuscular Electrical Stimulation is applied to a muscle that is normally innervated.

The muscle fibres are not directly stimulated; rather, the stimulation is done through the nerve endings.

The electrodes are applied to the muscle that will be worked so that the current stimulates the motor nerve. Depending on treatment goals, an electrode will be positioned directly on its motor point (where the force generated is greatest) in order to cause a quality contraction (or with the help of a vaginal probe).

To be effective, transcutaneous neuromuscular stimulation requires precise adjustment of several parameters, such as: adjusted pulse shape, sufficient and comfortable current intensity, and adequate frequency. Therefore, it is important to use it under medical supervision, as recommended by a health care professional.

TENS

Electrotherapy or transcutaneous electrical nerve stimulation -TENS- involves depolarizing peripheral nerve fibres, transmitted by means of electrodes placed on the body in order to reinforce the effectiveness of natural pain control mechanisms.

TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION APPLIED AT THE SENSORY LEVEL
A tingling sensation is provoked to trigger a natural analgesic reaction.

ACCESSIBLE TO ALL
The option of choosing a TENS program that is appropriate for one's type of pain makes it a highly effective non-surgical, non-drug therapy solution. TENS can be used to manage pain during both activity and at rest, both in the clinic and at home.

In order to optimize the results of TENS nerve stimulation, we recommend that you be under the care of a health care professional.

*For safe and proper use of the TENS, please follow the recommendations of your health care professional.

1.3 SAFETY MEASURES

INDICATIONS, CONTRAINDICATIONS, PRECAUTIONS, WARNING, ADVERSE EFFECTS

NMES INDICATIONS

Transcutaneous neuromuscular stimulation (NMES), which is particularly effective in preventing and treating amyotrophy, is widely used in rehabilitation in general.

- Improve muscle quality: increase strength and endurance, prevent muscular atrophy due to immobilization.
- Improve or stop deterioration of a muscular imbalance.
- Reduce muscle spasms.
- Increase joint mobility (agonist/antagonist stimulation).
- Promote a return to functional activities.
- Act as a static or dynamic brace, for example: correcting a foot drop, supporting a hemiplegic shoulder, helping the quadriceps not give out during load-bearing exercise.
- Sports uses: increase mass, strength, endurance and muscle vascularization.

TENS INDICATIONS

A safe therapeutic technique that is known in the medical community for its lack of adverse effects under normal conditions of use.

TENS IS IDEAL FOR RELIEVING

- acute, subacute or chronic pain
- pain due to a trauma
- pre- or post-operative pain
- neuropathic, musculoskeletal, and perineal pain,
- pain related to cancer (under certain conditions)

STRICT CONTRAINDICATIONS (C-I)

USE UNDER MEDICAL OR INTERDISCIPLINARY SUPERVISION

- Pregnancy: endogenous opiates released during muscle contractions induced by electrical stimulation may stimulate myometrial contractions. Electrical muscle stimulation of large muscle groups should therefore be avoided during pregnancy. (NMES)
- Bleeding (or risk of bleeding): risk of promoting bleeding.
- DVT/blood clot/embolism: a blood clot could move into the bloodstream.
- Anterior cervical region/carotid sinus: risk of stimulating the vagus nerve, phrenic nerve, pharyngeal muscles or carotid sinus.
- Chest/heart: risk of affecting normal heart function.
- Transcranial: risk of affecting normal cerebral function.
- Eyes: The risks of treating this part of the body are not known.
- Undiagnosed persistent pain.

LOCAL CONTRAINDICATIONS (C-I)

USE UNDER MEDICAL OR INTERDISCIPLINARY SUPERVISION

- Heart disease: risk that the heart will have difficulty keeping up with the high metabolic demand. Patients with a suspected or diagnosed cardiomyopathy should follow the recommendations of their doctor.
- Recent surgery, unstable fracture, osteoporosis: muscle contractions could cause a muscle tear or even a displacement of the fracture.
- Epilepsy: Local C-I on the head and neck. Electrical stimulation could trigger a seizure.
- Infection: the infection may spread.
- Malignancy/neoplasia

NMES Resistance is reduced, increasing the risk of a burn.

TENS Risk of spreading metastases. Risk of increasing tumour growth. Cancer (or suspected cancer) is a local contraindication to electrotherapy currents; therefore, it may be used away from the affected site. In the case of metastases, TENS in general is contraindicated. Patients who have already had cancer are recommended to wait until they have been in remission for 5 years before using TENS on the affected area. However, under certain conditions (e.g., palliative care) an interdisciplinary decision may be made to use TENS on cancer patients receiving end-of-life care.

- Skin weakened by radiation therapy: could stimulate the growth of remaining malignant cells.
- Circulatory disorder: the increase in cellular activity also increases the metabolic demand for oxygen. Therefore, the demand for oxygen may exceed the supply, increasing pain. This may lead to ischemia or even tissue necrosis.
- Tuberculosis: the infection may spread.
- Electronic implant: risk of interference with normal implant function.

Additional local C-I for TENS

- Pregnancy: risk of affecting the development and growth of the foetus. Risk of triggering premature uterine contractions. The effects of the procedure in the perineal area during pregnancy are unknown.
  (local C-I only for TENS and absolute C-I for NMES)
- Damaged or delicate skin: resistance is decreased, which increases the risk of burns.
- Sensory disorder: risk that the patient does not feel the current adequately, which increases the risk of burns or skin irritation.

PRECAUTIONS

- Skin disease (e.g., eczema): resistance is decreased, which increases the risk of burns.
- Active epiphyseal plate: risk of impairing bone growth.
- Abundant fat tissue: risk of ineffective treatment; the current does not reach the target tissue (muscle) because the fat tissue increases electrical impedance, which limits the penetration of the current.
- Impaired cognition or communication: increased risk of injury to the patient. The patient's opinion, judgment and behaviour must be known in order to use the device safely. (Do not apply stimulation to patients who are unable to express themselves).
- Sensory disorder: risk that the patient does not feel the current adequately, which increases the risk of burns or skin irritation. (Loss of sensation: Proceed with caution if stimulation is applied to areas of the skin with a lower than normal level of sensation).
- Epilepsy: use caution on the trunk and extremities. Patients with suspected or diagnosed epilepsy should follow the recommendations of their doctor. (have medical approval to use the device).
- Lower abdomen: high-intensity stimulation may increase gastrointestinal motility.

Additional precautions for TENS

- Circulatory dysfonction: the stimulation increases metabolic demand and the demand for oxygen may exceed the supply, thus increasing pain. This could lead to ischemia or tissue necrosis.
- Chest, heart and lower abdominal region.

If pain persists, please consult your doctor.

WARNINGS

- Consult a health care professional before using the device because the device may cause lethal heart rhythm disturbances in some susceptible individuals.
- Use this device only as recommended by a health care professional. (positioning electrodes, adjusting settings).
- Never begin a first stimulation session on a person who is standing up. The first five (5) minutes of stimulation should be performed while sitting or lying down. Rarely, nervous individuals may suffer a vasovagal reaction. This reaction is related to a fear of muscular stimulation and the surprise of seeing one's muscles contract unintentionally. A vasovagal reaction can cause the heart to slow down and blood pressure to drop, which can lead to weakness and syncope. If this happens, stop stimulation. The patient should lie down with his or her legs elevated until the feeling of weakness goes away (5 to 10 minutes).
- Do not apply stimulation to the patient's neck (on the carotid sinus) or mouth because this could lead to severe muscle spasms resulting in airway closure, breathing difficulties or adverse effects on heart rate or blood pressure.
- Do not apply stimulation to the patient's torso because the passage of an electrical current through the chest can cause life-threatening heart rhythm disturbances.
- Avoid placing electrodes on either side of the head (transcranial area).
- Do not apply stimulation to open wounds, erythema or rashes, or to swollen, red, infected or inflamed areas (e.g. phlebitis, thrombophlebitis, varicose veins).
- Do not apply stimulation on or near cancerous lesions.
- Do not apply stimulation directly to the eyes.
- Long-term effects: we are unaware of any long-term effects of NMES.
- Do not apply stimulation near metal. Remove all jewelry, piercings, belt buckles or any other metal objects or devices in the area of stimulation.
- Never use the electrodes contralaterally, i.e., by applying two poles of the same channel on either side of the body's midline.
- Abrupt changes in temperature can cause condensation to build up inside the stimulator. To avoid this, allow the device to come back to room temperature before using it.
- During stimulation sessions, never disconnect a stimulation wire while the stimulator is switched on. The stimulator should be turned off first.
- During sessions, the stimulator should always be turned off before moving or removing the electrodes.
- Apply NMES on normal, intact, clean and healthy skin.
- Do not use electrodes with an active area of less than 2.54 cm in diameter; otherwise, skin burns may occur.

  Proceed with caution if the electric current density is higher than 2 mA/cm².
- Always use conductive gel with carbon electrodes to avoid risk of skin damage.
- The stimulator should be used only with electrodes intended for stimulating nerves and muscles. Muscle pain may occur after stimulation but generally disappears within a week.
- Inspect the electrodes before each use. Change the electrodes when they begin to wear out or lose adhesiveness. Poor contact between the electrodes and the patient's skin increases the risk of irritation or burns on the skin. Apply the electrodes so that their entire surface is in contact with the skin.
- Do not share electrodes with other patients. Each user should have a packet of electrodes in order to avoid any adverse skin reactions or disease transmissions.
- Never immerse the device in water or other liquids.
- The manufacturer denies all liability in cases where electrodes are positioned in ways other than as recommended.

ADVERSE EFFECTS

- Patients may feel irritation and skin burns under the stimulation electrodes applied to the skin.
- Patients may experience headaches and other painful sensations during or after the application of electrical stimulation near the eyes, on the head or the face.
- Patients should stop using the device and consult a doctor if they experience an adverse reaction.
- Some patients may experience extra sensitivity or skin irritation due to the electrical stimulation or the electrical conductor (Gel). Irritation may be alleviated by using a different conductor or by placing the electrodes differently.
- Some patients may experience redness under the electrodes after the session. This redness generally disappears within a few hours. If skin redness persists after a few hours, the patient should consult a doctor. Do not begin another stimulation session on the same area if redness is still visible. Do not scratch red areas.

SAFETY MEASURES

- Keep out of the reach of children.
- Risk of electric shock.
- Near other equipment. Do not use the device when it is placed near to or above other equipment. If it is necessary to use it in such a configuration, make sure that ALL DEVICES ARE working properly under these conditions.
- Do not use the device at the same time as monitoring equipment (e.g. ECG equipment) operating with electrodes. The signals of the device could interfere with those of the monitoring device.
- Accessories. Use this device only with manufacturer-recommended electrodes, probes and accessories. Using other accessories may harm the performance of the device, increase electromagnetic emissions or reduce the electromagnetic immunity of the device.
- Do not modify. No modifications to the equipment are authorized.
- Battery or stimulator heating up. Under extreme use conditions, some parts of the casing may reach 43°C (109°F). Handle the battery and hold the device carefully immediately after use. This temperature may cause an unpleasant sensation but does not pose a particular health risk.
- Strangulation. Do not wrap the wires around the patient's neck and keep out of the reach of children. Tangled wires may lead to strangulation.
- Falls. Pay attention to wires on the ground to prevent falls.
- Damaged device or accessories. Never use the device or accessories if damaged (casing, wires, etc.) or if the battery compartment is open because there is a risk of electric shock. Carefully inspect the wires and connectors before each use.
- Foreign body. Do not allow any type of foreign body (dirt, water, metal, etc.) to get into the device or the battery compartment.
- Battery. Do not carry the battery in a pocket, wallet or any other place in which the terminals may cause a short-circuit. This may generate intense heat and cause injury. Never open the battery compartment cover during stimulation due to the risk of electric shock. Remove the battery from the device if you do not plan to use it for a long period, i.e., more than three (3) months. Leaving the battery in the device for a long period may damage the battery and the device.
- To avoid damage to the wires, it is best to leave them connected to the stimulator between two (2) sessions.
  Do not shake the wires and connectors.
- Muscle strains. Do not apply electrodes to a strained muscle. Using the stimulator on a muscle that is already stretched may stretch it further. The higher the stimulation intensity, the greater the risk that the muscle will be overstretched.
- Equipment with internal power supply, type BF applied parts are not suitable for:
  - Use in the presence of a flammable anaesthetic mixture with air, oxygen or nitrous oxide.
  - Continuous use

2 INTRODUCING THE DEVICE

2.1 EQUIPMENT AND ACCESSORIES | MODEL: Stim-Medic

THE STIM-MEDIC PORTABLE MUSCLE STIMULATOR COMES WITH MANY ACCESSORIES INCLUDING

• 1 case • 1 Stim-Medic NMES • 1 quick-start guide • 1 charger and 2 Li-ion batteries • 2 wires and 1 set of carbon electrodes • 1 250ml tube of gel • 1 roll of adhesive tape • 1 manual controller • 1 protective silicone sleeve which can be used with • 1 belt clip and • 1 elastic band for attaching to an extremity for greater comfort and mobility • 1 neck strap for easily wearing the NMES device

ATTENTION

Carefully read the instructions about using the electrodes as explained on their packaging.

2.2 TECHNICAL FEATURES

The SET muscle stimulator is a two-channel stimulator designed for muscle rehabilitation (NMES) and pain relief (TENS). The stimulator comes with 27 preset programs and 3 customizable programs. Electrical stimulation therapy requires a stimulation current capable of penetrating the resistance of the skin and the electrode, i.e., approximately 1500 ohms.

The SET muscle stimulator can penetrate this resistance and maintain a current intensity of up to 100 mA. A change in load from 100 to 1500 ohms results in less than 10% variation in stimulation current from the set value.

The SET muscle stimulator works with a rechargeable, 3.7V/600mAh Li-ion battery with a separate charger.

ELECTRICAL SPECIFICATIONS

• Number of channels	2 non-independent in NMES mode 2 independent in TENS mode 1 manual controller
• Constant current	Up to a resistance of 1500 ohms (an increase in load may reduce the maximum current)
• Stimulation current/channel	From 0 to 100mA (maximum load: 40µ C)
• Form of pulse	Symmetrical biphasic pulse, 100% compensated
• Number of preset programs	27
• Number of customizable programs	3
• Form of stimulation	Continuous stimulation Intermittent stimulation Conventional (Continuous) Burst Pulse duration/modulated frequency
• Maximum pulse width	40-400 µs
• Maximum frequency	1-150 Hz
• Timer	From 1-60 min/Continuous (C)
• Power supply	1 rechargeable lithium-ion battery, 3.7 volts/600 mAh
• Use	+5°C to +40°C, 15% to 90% R.H. non-condensing: 700hPa and 1060hPa
• Storage and transportation	-10°C to 60°C, 15% to 75% R.H. non-condensing: 700hPa and 1060hPa
• External dimensions	110 mm (L), 64 mm (W), 17 mm (D)
• Weight with battery	Approx. 114 g
• Weight without battery	Approx. 90 g

2.3 CHOICE OF PRESET PROGRAMS

NMES

- Global Strengthening
- Strength (with or without active rest)
- Endurance (with or without active rest)
- Hypertrophy
- Neurology
- Alternating stimulation
- Muscle relaxation (recuperation)
- Massage
- Functional stimulation

TENS

- Conventional
- Burst
- Pulse duration modulation (MW)
- Frequency modulation (MR)

1 ON/OFF BUTTON

In addition to opening and closing the device, allows stimulation to be stopped at any time.

2 3 FUNCTIONS

△ 1 INCREASE

Allows the intensity of the left or right channel to be increased.
*Increases the intensity carefully, as prescribed.

△ 2 CUSTOMIZABLE PROGRAMS

3 TIMER

△ Also allows the timer to be adjusted.

3 4 FUNCTIONS

▽ 1 DECREASE

Allows the intensity of the left or right channel to be reduced.

▽ 2 LOCK

Also deactivates the lock.

▽ 3 CUSTOMIZABLE PROGRAMS

Also allows you to switch from one program to another.

▽ 4 TIMER

Also allows the timer to be adjusted.

4 PROGRAMS

PR Choice of 27 preset programs and 3 custom programs for safe and effective customized treatment.

5 2 FUNCTIONS

S 1 SELECTION

Hold the button down for 3 seconds to enter the program customization mode.
Confirm, save the selection of the current program.

S 2 WARM-UP

Also allows the warm-up period to be selected.

6 DIGITAL SCREEN

7 TIMER

Activates the timer, allows you to set the length of treatment.
Options: 1-60 min. timer or timer on continuous mode **C** depending on your needs and the recommendations of your health care provider.

8 PAUSE

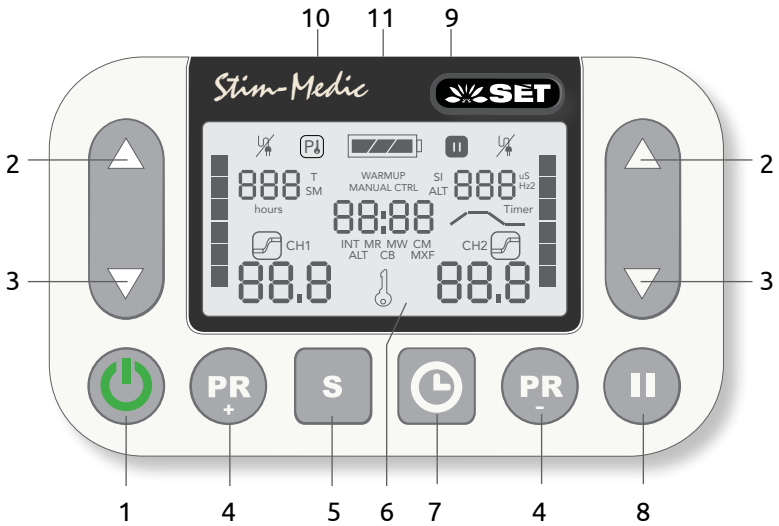
Puts the device in standby mode, brings the intensity down to zero.
The intensity will then resume gradually when you press on the pause button.
The timer stops when the device is in pause mode.

9 CHANNEL #2 OUTPUT

10 CHANNEL #1 OUTPUT

11 MANUAL CONTROLLER CONNECTOR

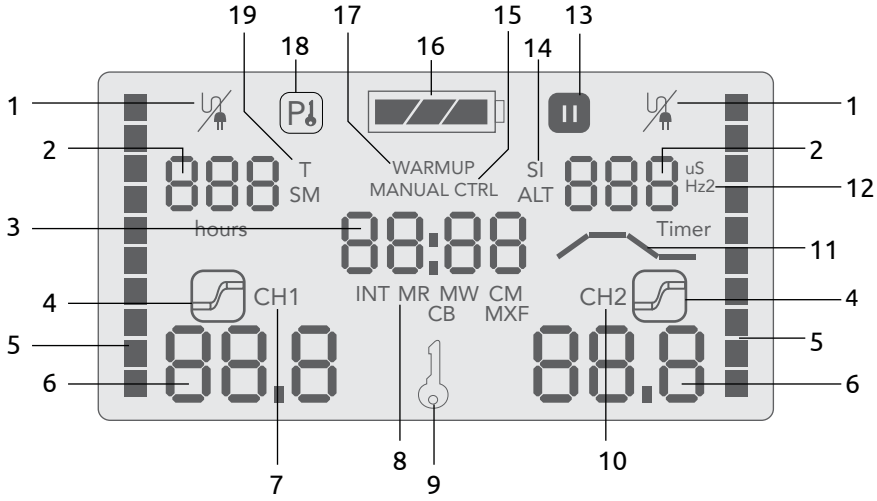
It is possible to manually control contractions during intermittent stimulation programs.



CONTROL BUTTONS

2.4

SCREEN DISPLAY 2.5



1 OPEN CIRCUIT
- Disconnected electrode
- Wire breakage
- Impedance too high
- Other likely issue

2 PROGRAM
Displays the selected program.
- The left side displays the number of the channel 1 program
- The right side displays the number of the channel 2 program

3 TIMER
Displays the remaining time.

4 WORK/REST
- Work/rest indicator for intermittent stimulation programs.
- The upper part of the symbol blinks in work phase.
- The lower part blinks in rest phase.

5 INTENSITY
Intensity of the channel in graduated scale.

6 PULSE INTENSITY
Intensity of the channel represented in numbers.

7 CHANNEL 1

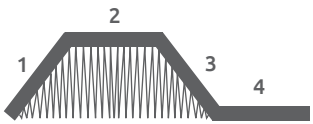
8 INDICATES THE STIMULATION MODE

9 LOCK
Indicates whether the program is locked.

10 CHANNEL 2

11 INTERMITTENT STIMULATION PHASE
This symbol shows the 4 intermittent stimulation phases. It will be displayed with customized programs that require a rest period between muscle contractions.

THERE ARE 4 PHASES:
- 1 - Ramp-up Phase
- 2 - Work Phase
- 3 - Ramp-down Phase
- 4 - Rest Phase



12 DISPLAYS US OR Hz
In selection mode, allows one to know whether the numerical value is in Us or Hz.

13 DEVICE IN PAUSE MODE

14 SI/ALT
- Symbol present during NMES muscle stimulation only (SM mode)
- SI : Indicates that the 2 channels work simultaneously
- ALT : Indicates alternating between 2 channels

15 MANUAL CONTROLLER (MANUAL CTRL)
- Indicates that the stimulator is in manual mode and controlled by the manual switch.
- When the manual switch is inserted into the device, the symbol automatically appears.

16 BATTERY STATUS
Indicates the battery level in thirds (1/3 - 2/3 - 3/3)

17 WARM-UP PERIOD (WARM-UP)
- The symbol blinks when the device starts up.
- To activate the warm-up period, press S (SELECT)
- Press the up arrow to not use the warm-up period.

18 LOCKED PROGRAM
Program cannot be modified.

19 T or SM
Indicates whether the device is in mode
- TENS (T)
- NMES MUSCLE STIMULATOR (SM)

3 DEVICE SETUP

3.1 FOR THE PATIENT

INSTRUCTIONS

The SET STIM-MEDIC stimulator gives you the option of choosing the treatment mode that best suits your needs: treatment by NMES or TENS. In addition, since it has 2 separate outputs, it allows you to treat several parts of the body at once in different modes with different intensities; some programs and parameters can be modified under the supervision of a health care professional.

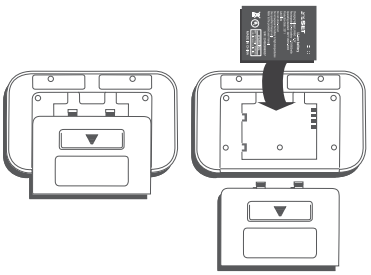
Do not place the device in a position where it will be difficult to quickly reach the main power source to cut it off if needed.

For optimal and completely safe use, only use accessories provided by SET. In addition, setting the device to the appropriate intensity and progressive increases will provide the comfort, improvement and relief you seek. Increasing levels too quickly is not recommended.

A

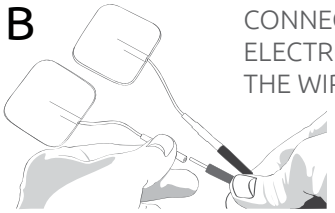
INSERTING THE LI-ION BATTERY INTO THE DEVICE

Please refer to the section BATTERY REPLACEMENT (3.7 for more information)



B

CONNECTING THE ELECTRODES TO THE WIRES



The electrodes used with this device must never be smaller than 2.54 cm. Be aware that the smaller the electrodes are, the more intense the stimulation will be at the site of the electrodes. This increases the risk of skin irritation at the site. Skin irritation may also occur if the entire surface of the self-adhesive electrode does not adequately stick to the skin. Replacement of the self-adhesive electrodes after 15 to 20 uses at most ensures optimal performance of the device. Carbon electrodes must be used with a conductive gel so that the current pases through adequately and effectively. Refer to the additional instructions provided on their packaging.

C APPLY THE ELECTRODES

To non-irritated skin that has been washed and dried, for the best adherence and optimal electrode performance. Carbon electrodes are recommended because they can be moved to achieve the most effective positioning on the muscle you are stimulating. Self-adhesive electrodes can then be used for greater practicality.

D CONNECT THE WIRES TO THE UNIT -NMES- AT THE INPUT FOR EACH CHANNEL

E CONNECT THE MANUAL CONTROLLER (if needed)

N.B.
Only works for NMES programs

F TURN ON THE DEVICE

Press the ON/OFF button

G SELECT A PROGRAM
(P1 to P30)

To select a program, as recommended by your health care professional for your diagnosed medical condition, press the button PR (PR +) or PR (PR -) until the desired program is displayed in region 2 on the screen or press the arrow to start treatment.

For more information about the available programs, refer to section 4: PROGRAMS.

I STOP STIMULATION

STOP To stop stimulation, reduce the intensity with the down arrow until the intensity returns to 0.00 or press the on/off button.

H START STIMULATION

NMES
You will have the option of doing a warm-up period (WARM-UP) before starting stimulation.
- To activate the warm-up period, press S (SELECT). (S)
- Press the up arrow if you do not want to use the warm-up period ▲
- Press the button and hold it down to increase the intensity continuously

TENS
Press the INCREASE button ▲ for each channel until you reach the preferred level of stimulation. Press the button and hold it down to increase the intensity continuously.
N.B. Always increase intensity carefully.

For the following cases, refer to section 3.2:
SPECIAL INSTRUCTIONS

- Intermittent stimulation + manual controller
- Intermittent stimulation with active rest

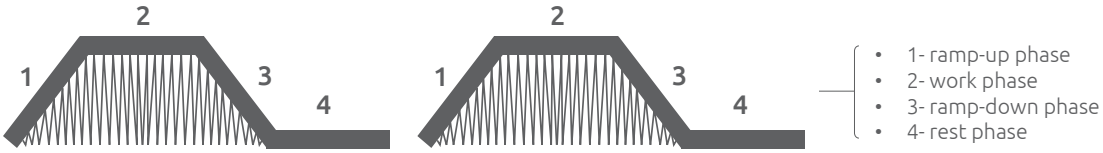
LOCK The safety lock symbol indicates that the key lock is activated. It will appear after 10 seconds once the intensity setting is selected. So if you would like to increase the intensity, first press the down arrow to deactivate the safety lock. You can then adjust the intensity level by pressing on the up ▲ or down arrows ▼

Treatment length is preset but can be changed by using the TIMER function

3.2 SPECIAL INSTRUCTIONS

Intermittent stimulation
+ with active rest (P8-P9, P12-P15)
+ manual switch (P22-P23)

The programs indicated above include rest periods between muscle contractions (work phase) as illustrated in the following figure.



- 1- ramp-up phase
- 2- work phase
- 3- ramp-down phase
- 4- rest phase

OPERATION

The contraction increases progressively during the ramp-up phase and reaches its maximum during the work phase. During the ramp-down phase, the stimulation reduces progressively until the start of the rest phase. The rest phase may include stimulations (active rest) or not.

During intermittent stimulation programs, the work/rest symbol  is displayed on the screen. The upper part of the symbol blinks in work phase while the lower part blinks in rest phase.

Programs P22 and P23 allow you to use the manual switch to manually control the length of work and rest phases manually. Once the intensity has been selected (5 sec.), the muscle stimulator will return to the rest phase. Press the button on the manual switch during the rest phase to start the ramp-up phase and contractions. The rest phase ends when you press the button on the manual switch again.

INTERMITTENT STIMULATION WITH ACTIVE REST (P8, P9, P12 to P15)

Choosing an active rest program reduces the likelihood of soreness and prepares the muscle for the next stimulation.
It involves a low-frequency stimulation during the rest period.
N.B. The amplitude level will be controlled for the contraction phase and will reduce the amplitude by 50% for the rest phase. Both phases will still be adjustable.

AMPLITUDE SETTING FOR CONTRACTIONS (work phase)

When the upper part of the work/rest symbol is blinking, increase the intensity progressively until you achieve painless muscle contractions. 

AMPLITUDE SETTING FOR ACTIVE REST

When the lower part of the work/rest symbol is blinking, increase the intensity progressively until you achieve painless muscle contractions. 

3.3 LOCK/UNLOCK A PROGRAM

To lock or unlock a program, simultaneously press the down arrow of program 2 and the **PR** button of program 2 for 10 seconds. You will see the lock symbol, illustrated above, in the section to the left.

- To change the lock status: use the down arrows ▼ to confirm the operation.
- If the lock symbol appears: program locked, cannot be changed.
- If the lock symbol does not appear: program unlocked; the user can change the program.

*Do the same operation to unlock the program

3.4 TIMER

CHANGE THE LENGTH OF TREATMENT 0-60 MINUTES

- Press the Timer button and the timer will blink.
- The device will count down the elapsed time and will automatically stop once the time has run out
- For the continuous treatment option, without interruption, keep pressing until the signal **C** appears. You will need to stop the device yourself when you think the treatment has been long enough. Confirm your selected option by pressing the **S** button to save or press the arrow ▲ to start treatment

3.5 STOP/PAUSE DURING A PROGRAM

STOP — To stop stimulation, reduce the intensity with the down arrow until the intensity returns to 0.00 or press the On/Off button.

PAUSE — At any time during treatment, you can pause for 5 minutes.

- If the device is locked, unlock it by pressing the down arrow then pressing Pause
- The timer will stop while paused as desired
- To resume treatment, press Pause again

3.6 MANUAL CONTROLLER (MANUAL Ctrl) FOR **NMES** ONLY

- To use the manual controller, connect the wire on top of your stimulator. The message (MANUAL Ctrl) will appear on your screen.
- By pressing on the button, you will be able to manually control your muscle contractions. (Work Phase/Rest Phase)

BATTERY 3.7

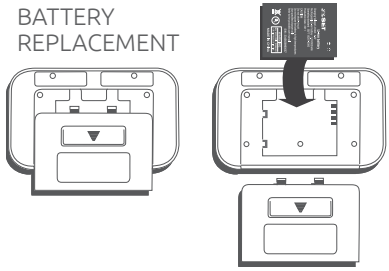
You can always check the level of your battery thanks to the following symbol:

BATTERY STATUS As displayed: 1/3 of battery  2/3 of battery  3/3 of battery 

You may continue treatment as long as the stimulator is operating normally. When the effect of stimulation diminishes or the stimulator turns off, it is time to recharge the battery. If you are not using the stimulator for a period of time (approximately three months), it is preferable to remove the stimulator battery.

The stimulator only works with an SET 4.2V lithium-ion battery.

BATTERY REPLACEMENT



LIFE EXPECTANCY

The typical life of a lithium-ion battery is approximately:

- Three (3) years
  or
- 300 charge cycles
  a charge cycle refers to a complete discharge followed by a complete recharge of the battery.

N.B. ONLY USE AN SET BATTERY FOR THE STIMULATOR AND THE SET CHARGER TO RECHARGE THE BATTERY.

LI-ION BATTERY CHARGER

LED INDICATOR LIGHT FEATURES

- Adaptor (Model: JKY36-MDA534627)EN
- Input: 100 V-240 V~, 50/60 HZ, 150 mA
- Output: 4.2 V ⎓, 650 mA
- Red light: recharging
- Yellow light: recharging
- Green light: no battery or charging complete

CHARGER

- Input: 4.2V ⎓
- Output: 4.2V ⎓
- Green light: fully charged
- Green light: device plugged in without battery

THE PATEINT IS THE DESIGNATED OPERATOR

The patient can use the buttons and change the battery under normal conditions and maintain the device and its accessories according to the user manual

ATTENTION!

- Use only Service d'Électro-Thérapie rechargeable Li-ion batteries
- NEVER reverse the (+) and (-) terminals when connecting them or let the batteries come into contact with metal objects (necklaces, hairpins, etc.)
- NEVER charge Li-ion batteries for longer than 72 hours
- The battery charger must be in compliance with IEC 60601-1 standards

SAFETY MEASURES

- Do not expose the equipment to fire, direct sunlight or other heat sources, which may cause a fire or explosion, or generate toxic gases
- Do not store or transport the device with metal objects
- Do not disassemble or modify the device components
- Avoid all contact with water or any other liquid

INSTRUCTIONS FOR USING THE CHARGER

- Insert a Li-ion battery. Align the connection terminals (+) and (-) correctly
- Plug the charger into a standard wall outlet
- A red or yellow LED indicates charging
- When fully charged, the LED turns green. Unplug the charger and remove the battery

CHARGING TIME

- A Li-ion battery takes about 3.5 hours to charge.

LI-ION BATTERY

- Limited voltage: 4.2 V
- Rechargeable Li-ion battery: 3.7 V/600 mAh

ADAPTOR

- 100-240 v 50-60 Hz, 1.2A

The adaptor is a 2MOPP piece of equipment under IEC 60601-1-1.
Approval of the equipment is valid if used in combination with the adaptor provided with this equipment.

ATTENTION

- Connecting this equipment to an adaptor other than the one provided with the Service d'Électro-Thérapie equipment is not allowed.

SAFETY MEASURES

- Do not cause a short-circuit
- Do not expose the device to high temperatures
- Use the charger only as specifically recommended

Colours of indicator lights and their meaning

red	The operator's immediate response is required
yellow	The operator's rapid response is required
green	Ready to use
Other	Meaning other than those here

SAFETY CLASSIFICATION OF SET EQUIPMENT

Protection from electric shock	Internally powered SET device
Applied part	Type BF applied part: Electrodes
Electrical equipment protected against harmful ingress of water or particulate matter.	IP22
Operation mode	Continuous operation

Note: Not intended to be sterilized.
Not for use in an oxygen-rich environment.

Do not position the device in such a way that it would be difficult to reach the main power source and that might prevent the rapid closure of the device if needed.

4

PRESET PROGRAMS

Program	Title		Warm-up Period (Fixed)				Work time								Recovery period (Fixed)			
										Time (in seconds)								
			Frequency (Hz)	Pulse duration (µs)	Ramp-up/ ramp-down time	Timer	Frequency (Hz)	Rest (Hz)	Pulse duration (µs)	Ramp-up	Work	Ramp-down	Rest	Timer	Frequency (Hz)	Pulse duration (µs)	Ramp-up/ ramp-down time	Timer
1	Reactivation of motor units	Small muscles					8 Hz	0	250	-	-	-	-	30				
2	Endurance	Large muscles					20	0	200	2	10	1.5	20	20				
3	Endurance	Small muscles					20	0	400	2	10	1.5	20	20				
4	Global Strengthening	Large muscles					30	0	250	2	8	1.5	22	20				
5	Global Strengthening	Small muscles					40	0	350	2	8	1.5	22	20				
6	Strength	Large muscles					50	0	200	2	4	2	12	20				
7	Strength	Small muscles					75	0	400	2	4	2	18	20				
8	Hypertrophy	Large muscles					45	8	200	2	4	1	8	15				
9	Hypertrophy	Small muscles					50	8	400	2	4	1	8	15				
10	Neurology	Large muscles	6	250	1.5	2	40	0	200	4	5	2	15	20	3	250	0.5	3
11	Neurology	Small muscles					40	0	400	4	5	2	15	20				
12	Endurance with active rest	Large muscles					35	4	250	1.5	10	1.5	10	20				
13	Endurance with active rest	Small muscles					40	4	400	1.5	10	1.5	10	20				
14	Strength with active rest	Large muscles					50	4	200	1.5	4	1	12	20				
15	Strength with active rest	Small muscles					75	4	400	1.5	4	1	12	20				
16	Alternating stimulation	Large muscles					50	0	200	1	4	1	6	20				
17	Alternating stimulation	Small muscles					50	0	400	1	4	1	6	20				
18	Muscular relaxation/recovery	Large muscles	N/A				5	0	200	-	-	-	-	30	N/A			
19	Muscular relaxation/recovery	Small muscles					5	0	400	-	-	-	-	30				
20	Massage	Large muscles					7-15 Hz	0	200	-	-	-	-	30				
21	Massage	Small muscles					7-15 Hz	0	400	-	-	-	-	30				
22	Functional stimulation	Small muscles					50	0	250	2	manual	1.5	manual no timer					
23	Functional stimulation	Large muscles					50	0	350	2	manual	1.5	manual no timer					
24	Warm-up						2-8 Hz	0	300	-	-	-	-	5				

TENS

Modifiable Programs

Programme	Mode		Warm-up Period (Fixed)				Work time								Recovery period (Fixed)			
										Time (in seconds)								
			Frequency (Hz)	Pulse duration (µs)	Ramp-up/ ramp-down phase	Timer	Frequency (Hz)	Rest (Hz)	Pulse duration (µs)	Ramp-up	Work	Ramp-down	Rest	Timer	Frequency (Hz)	Pulse duration (µs)	Ramp-up/ ramp-down phase	Timer
25	Conventional (C)		N/A				80	0	150	-	-	-	-	30	N/A			
26	Burst (B)						2	0	250	-	-	-	-	30				
27	Pulse duration modulation (MW)						80	0	80-150	-	-	-	-	30				
28	NMES/TENS		N/A / NMES Only				1-150	0	40-400	-	-	-	-	30				
29	NMES/TENS						1-150	0	40-400	-	-	-	-	30				
30	NMES/TENS						1-150	0	40-400	-	-	-	-	30				

MODIFIABLE PROGRAMS

5 CUSTOMIZATION

With the Service d'Électro-Thérapie Stimulator, you can customize and record three custom programs (P28 to P30) for patient-specific treatment.

To create a custom program, follow the programming procedure below.

5.1 PROGRAMMING MUSCLE STIMULATOR **NMES** (SM)

Press the ON/OFF button.

Press the PROGRAM PR+ button OR PR- to go to the following program or return to the previous program until the program is at P28-P30.

Press the **S** (SELECT) S button and hold it down for 3 seconds in order to enter programming mode.
(Please refer to the programming chart (6.0) for the next steps.)

1 FIRST STEP

The first step is to choose between:

SM: NMES Muscle Stimulator

or **T**: TENS

Press the INCREASE (or DECREASE) ▲▼ button to go from **SM** to **T** and vice versa.
Confirm your selection by pressing the **S** (SELECT) button S

2 SECOND STEP

For this step, you will be directed to make the following 2 selections:

- Simultaneous stimulation (**SI**)
- Alternating stimulation (**ALT**)

Press the INCREASE (or DECREASE) ▲▼ button to go from **SI** to **ALT** and vice versa.
Confirm your selection by pressing the **S** (SELECT) button S

3 THIRD STEP

The available types of stimulations at this level depend on your previous selections.

Press the INCREASE (or DECREASE) ▲▼ button to display the different types of stimulations available on the screen.
The programming chart (6.0) indicates the different settings that are possible for each type of stimulation.
Confirm your selection at each step by pressing the **S** (SELECT) button S

5.2 PROGRAMMING **TENS** (T) INDEPENDENT CHANNELS

Press the  ON/OFF button.

Press the PROGRAM PR+ button OR PR- to go to the following program or return to the previous program until the program is at P28-P30.

Press the **S** (SELECT) **S** button and hold it down for 3 seconds in order to enter programming mode.
(Please refer to the programming chart for the next steps.)

1

FIRST STEP
CHANNEL #1

The first step is to choose between:

SM: NMES Muscle Stimulator

or **T**: TENS

Press the INCREASE (or DECREASE) ▲▼ button to go from **SM** to **T** and vice versa.

Confirm your selection by pressing the **S** (SELECT) button **S**

2

SECOND STEP

Press the INCREASE (or DECREASE) ▲▼ button to display the different types of stimulations available on the screen.

The programming chart (6.0) indicates the different settings that are possible for each type of stimulation.

Confirm your selection at each step by pressing the **S** (SELECT) button **S**

Types of stimulation for the TENS mode

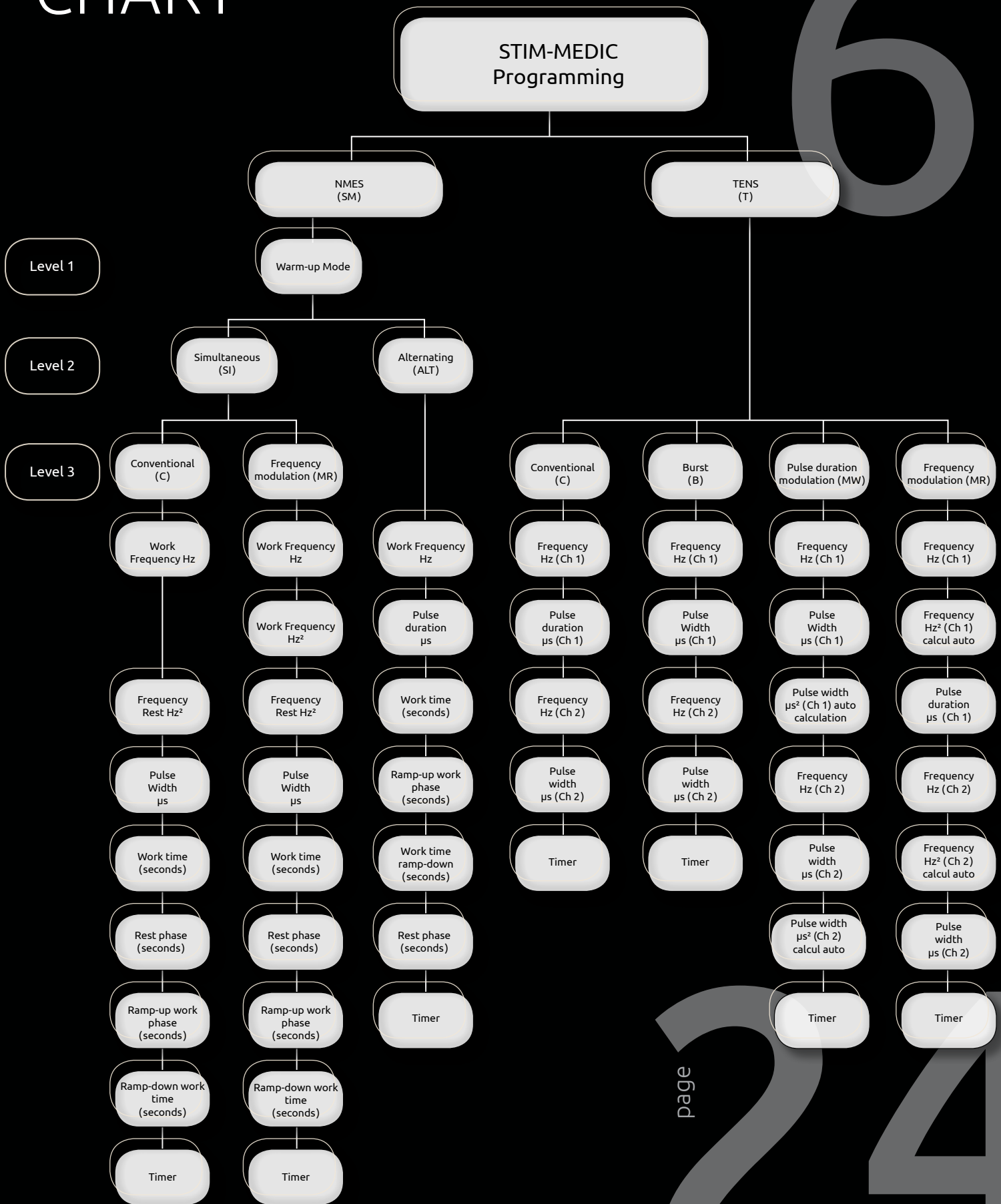
- Conventional (**C**)
- Burst (**B**)
- Pulse duration modulation (**MW**)
- Pulse frequency modulation (**MR**)

3

THIRD STEP
CHANNEL #2

- Repeat the previous steps for channel #2
  Confirm your selection at each step by pressing the **S** (SELECT) button **S**

PROGRAMMING CHART



MAINTAINING AND CLEANING THE DEVICE

Maintaining and cleaning the device are relatively

simple

- Always store the stimulator and its accessories in the case provided.
- No maintenance is required for the stimulator. The lifespan of the device may vary depending on the conditions of use, but it is generally around 5 years (3-year warranty on the devices); the accessories may need to be changed beforehand depending on how the device is used
- Never tamper with the device while in use.
- Never expose the stimulator to water. Wipe the device with a damp cloth as needed.
- Use the silicone pouch to protect your stimulator at all times.
- Disconnect wires and fittings carefully and properly.
- You may leave the wires plugged into your stimulator between treatments.
- BATTERY To maintain the battery amperage at its optimum level, the battery should be removed from the unit when not in use for an extended period (approx. 3 months).
- If you use carbon electrodes, use a large amount of conductive gel and prevent them from drying out by applying an adhesive tape (supplied in the kit). Rinse the carbon electrodes and your skin after use. Never use detergent to clean carbon electrodes
- For self-adhesive electrodes, you can moisten them with a little water after treatment to restore their adhesiveness. Keep them in an airtight place (such as a plastic bag). It also is important to cover them with their protective film after use and when they are not in use.
- Contact the manufacturer for help with installing and using or maintaining the equipment or to report any unusual events.

STORAGE AND WAREHOUSING CONDITIONS

- The device should be transported and stored within a temperature range of -10°C to 60°C, at a barometric pressure of 700hPa to 1060hPa and a relative humidity of 15 to 75% RH non-condensing..

7

TROUBLESHOOTING

PROBLEM	POTENTIAL SOLUTION	ACTION
Broken screen	None	Contact your distributor
Display problem	None	Contact your distributor
Detached part	None	Contact your distributor
The device does not light up at all	Is the battery fully inserted?	• Try changing the battery • Charge the battery
Symbol  appears, intensity increases, but no current	Check the state of the wires	• Try changing the wire • Try the other channel with the same wire
Symbol  appears, intensity stays at 1 and does not increase	Check the state of the wires	• Try changing the wire • Try the other channel with the same wire • See if the wire is twisted • See if the connector is damaged
Symbol  appears	• Are the electrodes on your skin? • Are the electrodes at the end of their life? • Is the contact with your skin good? • Check the state of the wires • Resistance too high between the electrode and the skin	• Try with the carbon electrodes • Change the self-adhesive electrodes • Try the other channel
The device opens and closes	Check the battery or battery compartment	• Try changing the battery • See if the battery is properly closed within the compartment
The current is unstable	• Does the program allow you to really feel the current? • Is the wire knotted? • Is the electrode well stuck to the skin?	• Test with P1 • Try the other channel • Try with carbon electrodes
The effect of stimulation is weak or nonexistent	• Check the status of the battery • Check the program you are using • Try on a healthy muscle (NMES)	• If the problem persists, consult your health care professional
Stimulation does not produce the usual sensation	• Check the setting parameters • Slightly change the position of your electrodes	• If the problem persists, consult your health care professional
Stimulation causes discomfort	• There is skin irritation • There is not sufficient contact between the electrode and your skin • The self-adhesive electrodes are worn out • There is not enough conductive gel on the carbon electrodes • The positioning of the electrodes is not optimal	• If the problem persists, consult your health care professional

NB: To reduce risks to the patient and avoid damage to the stimulator, never increase the intensity (amplitude) above 20 mA when testing for a possible wire breakage. For more information, do not hesitate to contact your point of sale or authorized distributor.

WARRANTY 9

The manufacturer, Service d'Électro-Thérapie, represents that Service d'Électro-Thérapie muscle stimulators are free from material and manufacturing defects at the time of delivery.

All Service d'Électro-Thérapie devices come with a 5-year warranty that starts on the date of purchase

THE SERVICE D'ÉLECTRO-THÉRAPIE WARRANTY applies only to the device and does not cover any accessories (wires, batteries, charger), which are covered by a 3-month warranty.

The warranty can be claimed only by the purchaser of a new product upon presentation of proof of purchase.

Service d'Électro-Thérapie, after verifying that the device is defective, will replace the product if it is still under warranty.

Any modification, misuse, improper use or accidental damage, and any repair made by a third party will cancel this warranty.

In case of a problem and for warranty purposes, the defective

device will be shipped to the point of sale during the warranty period and the point of sale will follow up on your request with the manufacturer as soon as possible.

10 FAQ

page 27

TRANSCUTANEOUS NEUROMUSCULAR STIMULATION
IS IT ACCESSIBLE TO EVERYONE?

People who do not have any contraindications or precautions can use the muscle stimulator. Please carefully read the Indications, Contraindications and Precautions section of your user manual.

To ensure safe and efficient use, the supervision of a heath care professional is recommended the first time you use the muscle stimulator in order to receive appropriate training and instructions on how to position the electrodes and configure the stimulator.

WHAT ARE THE ADVANTAGES OF USING THE MANUAL SWITCH?

The manual switch allows stimulation to be controlled manually. This switch enables the user to choose the length of contractions at the press of a button. When the user presses the controller button, stimulation reduces to the resting phase over a 1.5-second sequence. The user can then decide to repeat the contraction when he or she is ready. If the manual switch is used with preset programs, the user has the option of pressing the switch within the parameters or leaving the preset program to continue the pre-established sequence within the parameters of the chosen programs.

N.B. The preset length of the work phase may be shortened but not lengthened. It is therefore preferable to use a program with longer work phase when you are using the manual switch.

N.B. The manual switch does not work with alternating stimulation.

WHAT IS ACTIVE REST?

Choosing an active rest program reduces the likelihood of soreness and prepares the muscle for the next stimulation. It involves a low-frequency stimulation during the rest period.

N.B. The amplitude level will be controlled for the contraction phase and will reduce the amplitude by 50% for the rest phase. Both phases are still adjustable.

HOW DO I FIND OPTIMAL ELECTRODE POSITIONS FOR NMES TREATMENT?

Follow the recommendations of your health care professional for optimal electrode positioning.

To start, we recommend using the carbon electrodes and gel in order to find the right contraction. The optimal electrode position is the place where you get the strongest motor response.

HOW MANY TIMES CAN SELF-ADHESIVE ELECTRODES BE USED?

Self-adhesive electrodes can be used between 15 and 20 times. How long they can be used depends, however, on following maintenance and cleaning instructions and on the patient's skin type.

HOW LONG SHOULD A STIMULATION SESSION LAST?

NMES: depending on the state of the patient's muscles and the patient's progress in the rehabilitation process, treatment may last from 5 to 30 minutes. Always follow the recommendations of your health care professional.

N.B. Patients may have soreness due to NMES treatment.

TENS (high frequency): 30 to 60 minutes per session. Repeat as needed, with no limit on the number of sessions per day.

TENS (low frequency): 20 minutes per session and a maximum of three times per day.

N.B. Patients may have soreness after low-frequency treatment.

WHY IS THERE NO VISIBLE MUSCULAR CONTRACTION?

- The intensity may not be high enough; increase the intensity progressively without reaching a point where you feel pain.
- The electrodes may not be in an optimal position (motor point). Try moving the electrodes on the muscle to be stimulated, consult your health care professional.
- The settings may not be optimal for your condition. Consult your treating health care professional to check the settings.
- If you have a significant muscular atrophy, the smaller number of muscle fibres may not be able to generate visible muscle contractions. Consult your treating health care professional to confirm.
- In some people, a visible contraction is very difficult to obtain even on healthy muscles. Compare by stimulating the same muscle on the healthy side. If there is a significant difference, consult your health care professional.

CAN A MUSCLE STIMULATION SESSION REPLACE ACTIVE EXERCISE FOR STRENGTHENING?

No. Muscle stimulation can:

- Help improve the quality of contractions in addition to exercise.
- Maintain muscle function or prevent atrophy when active exercise is not possible or not optimal.
- Participate in motor learning.

DOCUMENT HISTORY

MANUFACTURED FOR SERVICE D'ÉLECTRO-THÉRAPIE

650 Industriel Boul., suite 100, Blainville, QC, Canada J7C 5Y7
1-800-761-1183 | info@canadaset.com | www.canadaset.com/en/

For any other information regarding the use of your Service d'Électro-Thérapie -TENS- device, please contact your authorized distributor.

11

INFORMATION ABOUT ELECTROMAGNETIC COMPATIBILITY

Tested and approved according to safety standardsIEC 60601-1 / IEC 60601-1-2 / IEC 60601-2-10

Wireless communication devices such as wireless home appliances, cell phones, cordless telephones and their bases, and walkie-talkies may affect the operation of the equipment and should be kept at least 3.3 metres away. (Note: as indicated in table 6 of IEC 60601-1-2 :2007 for Service d'Électro-Thérapie equipment, a typical cell phone with an output of 2W d=3.3m with an immunity level of 3 V/m)

Complete EMC tables are available from TENSCARE upon request.

Service d'Électro-Thérapie's StimMedic is designed to withstand foreseeable disturbances due to electrostatic discharges (ESD), magnetic fields from mains power, and radiofrequency transceivers such as cell phones.

LEGEND 12

Read the instruction manual before using the stimulator

Type BF Equipment - Type BF Isolated Part (floating)

Dispose of the device, batteries and accessories according to applicable recycling standards

Class II equipment

AC

DC

IP22 Protection index

LOT Barcode

SN Serial number

Manufacturer

Manual version 1.0

Software version 3.0

page