Instruction Manual

Mettler Electronics Corp.

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Intended Use

The Mettler Electronics, TENS*STIM is to be used:

- for temporary relief of pain associated with sore and aching muscles in the lower back due to strain from exercise or normal household and work activities. (Choose TENS Modes P1 through P7)
- for temporary relief of pain associated with sore and aching muscles in the upper and lower extremities (arm and/or leg) due to strain from exercise or normal household and work activities. (Choose TENS Modes P1 through P7)
- for symptomatic relief and management of chronic, intractable pain and relief of pain associated with arthritis. (Choose TENS Mode P8)
- for use by healthy adults for the stimulation of healthy muscles in order to improve or facilitate muscle performance. (Choose EMS Modes P1 through P6)

Read Before Using

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Indications and Contraindications

Read the operation manual before using.
Read instruction manual before operation. Be sure to comply with all "CAUTIONS" and "WARNINGS" in the manual. Failure to follow instructions can cause harm to user or device.

Please read the following information carefully before using **Mettler Electronics TENS*STIM.**

What is TENS?
The more precise term is **T**ranscutaneous (meaning "through the skin") **E**lectrical **N**erve **S**timulation (TENS). A TENS unit is an electrically powered device used to apply an electrical current to electrodes on a patient's skin to relieve pain associated with sore or aching muscles.

What is EMS?
EMS stands for **E**lectrical **M**uscle **S**timulation. An EMS device is used to stimulate healthy muscles in order to improve muscle performance.

Indications for Use
The Mettler Electronics TENS*STIM ,model no. ME 211 is to be used:
- for temporary relief of pain associated with sore and aching muscles in the lower back due to strain from exercise or normal household and work activities. (Choose TENS Modes P1 through P7)
- for temporary relief of pain associated with sore and aching muscles in the upper and lower extremities (arm and/or leg) due to strain from exercise or normal household and work activities. (Choose TENS Modes P1 through P7)
- for symptomatic relief and management of chronic, intractable pain and relief of pain associated with arthritis. (Choose TENS Mode P8)
- for use by healthy adults for the stimulation of healthy muscles in order to improve or facilitate muscle performance. (Choose EMS Modes P1 through P6)

Contraindications

Do not use this TENS*STIM if any of the following conditions are present:

- You have a cardiac pacemaker, implanted defibrillators or any other implanted metallic or electronic device. Such use could cause electric shock, burns, electrical interference, or death.
- You have undiagnosed chronic pain.
- You are pregnant. The safety of electronic muscle stimulation over the pregnant uterus has not been established.
- You suffer from cancer. The effects of electronic stimulation on cancerous tissue are unknown.
- You are under medical supervision for cognitive dysfunction as you may not be able to comply with safety instructions.
- The unit is in close proximity to shortwave or microwave diathermy equipment or you are connected to high-frequency surgical equipment, because of risk of device interference.
- Wearing the device necessitates placement over areas at which drugs/medicines are

administered (short-term or long-term) by injection (e.g. hormone treatment).
- You have epilepsy.
- You have recently undergone a surgical procedure.
- Following acute trauma or fracture.
- In case of critical ischemia of the limbs.

Warning and Precautions

⚠ Warnings

- If you are under the care of a Physician, consult with your Physician before using the TENS*STIM.
- The long-term effects of this TENS*STIM are not known.
- Do not place the pads on or close to your heart.
- Do not place the pads around or close to your neck. Do not apply stimulation over the neck. Severe spasm of the muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing. Stimulation over the neck could also adversely affect hearing or blood pressure.
- Do not apply stimulation across the chest because the introduction of electrical current into the chest may cause rhythm disturbances to the heart, which could be lethal.
- Do not place the pads on or around your head. The effects of stimulation of the brain are unknown.
- Do not use the pads over or close to sores.
- Do not place the pads on the front or sides of the neck across or through the heart (one pad on the front of the chest and one on the back), in the genital region, or on the head, because of the risk of stimulating inappropriate muscles and organs.
- Do not place the pads over any recent scars, broken or inflamed areas of infection or susceptibility to acne, thrombosis or other vascular problems (e.g. varicose veins), or any part of the body where feeling is limited.
- Do not place the pads over areas of injury or restricted movement (e.g. fractures or sprains).
- Do not use the TENS*STIM while sleeping.
- Do not use over insensitive areas.
- Do not use the TENS*STIM in or close to water.
- Do not use the pads over or close to cancerous lesions.
- Use the pads only on normal, healthy, clean and dry skin. Do not use the pads on open wounds or rashes, or over swollen, red, infected or inflamed skin.
- If you have ever had back surgery, consult your Physician before using the TENS*STIM.
- You must position the pads and operate the unit ONLY as indicated in this manual.
- Avoid areas of injury or restricted movement (e.g. fractures or sprains)
- Avoid placing the pads over metal implants.
- Do not use in the bath or shower, or in an environment of elevated humidity (e.g. Sauna, hydrotherapy, etc).

Do not use this TENS*STIM until:

- At least 6 weeks have passed after the birth of your baby (Consult your doctor before use).
- One month has passed after an IUD contraceptive device (e.g. coil) has been implanted (Consult your doctor before use).
- At least 3 months have passed after having a caesarean section (Consult your doctor before use).
- The heavy days of your period have finished, because vigorous abdominal exercise is not recommended when menstrual bleeding is heavy.

⚠Precautions

- Read User Manual before using this TENS*STIM for the first time.
- Keep this manual available whenever you use your TENS*STIM.
- The TENS*STIM is intended for personal use on healthy adult muscle only.
- The safety of using neuromuscular stimulation during pregnancy or birth has not been established.
- The effectiveness of the TENS*STIM depends greatly on a person's individual physical condition. It may not always be effective for every user.
- Use caution when/if:
  - You have skin areas that lack normal sensation.
  - Following surgical procedures if muscle contractions might impede the healing process.
  - Over a menstruating or pregnant uterus.
  - There is a tendency to hemorrhage following acute trauma or fracture.
- Place electrodes in accordance with illustrations in the User Manual.
- This unit should not be used while driving, operating machinery or during any activity in which involuntary muscle contractions may place the user at undue risk of injury.
- You may experience skin irritation or hypersensitivity due to the electrical stimulation or the conductive medium.
- Keep the stimulator out of the reach of children.
- This unit should only be used with the leads, electrodes and accessories provided by Mettler Electronics.
- The device is not intended for medical use, for the treatment of any medical condition, or for any permanent physical changes.
- Contact Mettler Electronics, if your unit is not working correctly. Do not use in the meantime. Replace batteries.
- An effective session should not cause discomfort.
- For first time users, muscle stimulation can be an unusual sensation. We recommend that you begin in a seated position with low stimulation intensity settings to familiarize yourself with the sensation before progressing to higher intensity settings.
- The leads and pads must not be connected to other objects.
- Do not over exert yourself while using muscle stimulation. Any workout should be at a comfortable level for you.
- Do not place pads over jewelry or body piercings.
- Start all sessions in a sitting position (fig.a). If necessary, secure the limb(s) to be exercised before using this device.

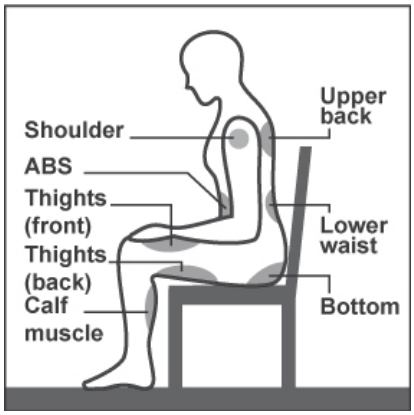


fig.a

⚠ **Use Caution and consult your Physician before using the TENS*STIM if any of the following conditions apply to you:**

- You have any serious illness or injury not mentioned in this guide.
- You have recently undergone a surgical procedure.
- You take insulin for diabetes.
- You use the unit as part of a rehabilitation program.
- If you have suspected or diagnosed heart problem.
- If you have suspected or diagnosed epilepsy.
- If you have a tendency to bleed internally following an injury.
- If you recently had surgery, or have ever had surgery on your back.
- If areas of skin lack normal sensations, such as skin that tingles or is numb.
- You are menstruating or are pregnant.

- Some people may feel skin irritation or experience a very sensitive feeling in the skin due to electrical stimulation. If this occurs, stop using your TENS*STIM and consult your Physician.
- If skin under one of more pads feels irritated after using the stimulator for a long period of time, use the stimulator for a shorter period of time.
- Minor redness at stimulation placement is a normal skin reaction. It is not considered as skin irritation, and it will normally disappear within 30 minutes after the electrodes are removed. If the redness does not disappear after 30 minutes from the removal of electrodes, do not use the stimulator again until after the excessive redness has disappeared.
- Turn off the stimulator if the stimulation feels unpleasant or does not provide pain relief.
- Keep your TENS*STIM out of the reach of children.
- Use your stimulator only with the pads, cables and accessories recommended by the manufacture.
- Do not use this TENS*STIM when driving, operating machinery or when swimming.
- Before removing electrodes, be sure to turn off the power of the device to avoid unpleasant stimulation.

After strenuous exercises or exertion:

- Always use lower intensity to avoid muscle fatigue.

Important:

- Do not use your unit at the same time as any other device which transfers an electrical current into the body (e.g. another muscle stimulator).
- Cease using your unit if you are feeling light headed or faint. Consult doctor if this happens.
- Do not touch the pads or metal studs while the unit is switched on.
- Do not use unit if you are wearing a belly button ring. Remove ring before session.

Note: If you are in any doubt about using device for any reason, please consult your doctor before use.

Pad/Electrode Precautions

- If you need to reposition the pads during a session, always pause the program currently running, reposition the pads as directed on page 7 and then restart the program again.
- Only use pads supplied by Mettler Electronics with your device. Any others many not be compatible with your unit and could degrade the minimum safety levels.
- The pads are for single person use only.
- Do not plunge the pads into water.
- Do not apply solvents of any kind to the pads.
- Always ensure the unit is OFF before removing the pads.
- Apply the whole surface of the pads firmly to the skin. Do not use pads which do not adhere properly to the skin.
- If your skin is red under the pad after a session, do not use in the same area until your redness has completed disappeared.

Adverse Reactions

- You may experience skin irritation and burns beneath the stimulation electrodes applied to your skin.
- You may experience headache and other painful sensations during or following the application of

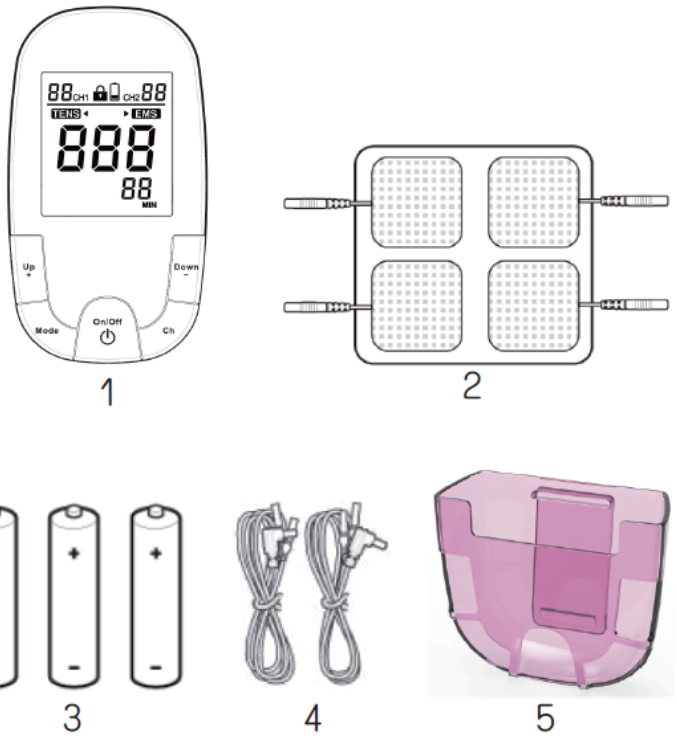
electrical stimulation near your eyes and to your head and face.
- You should stop using the device and should consult with your physician if you experience adverse reactions from the device.

Conditions that may affect your TENS*STIM

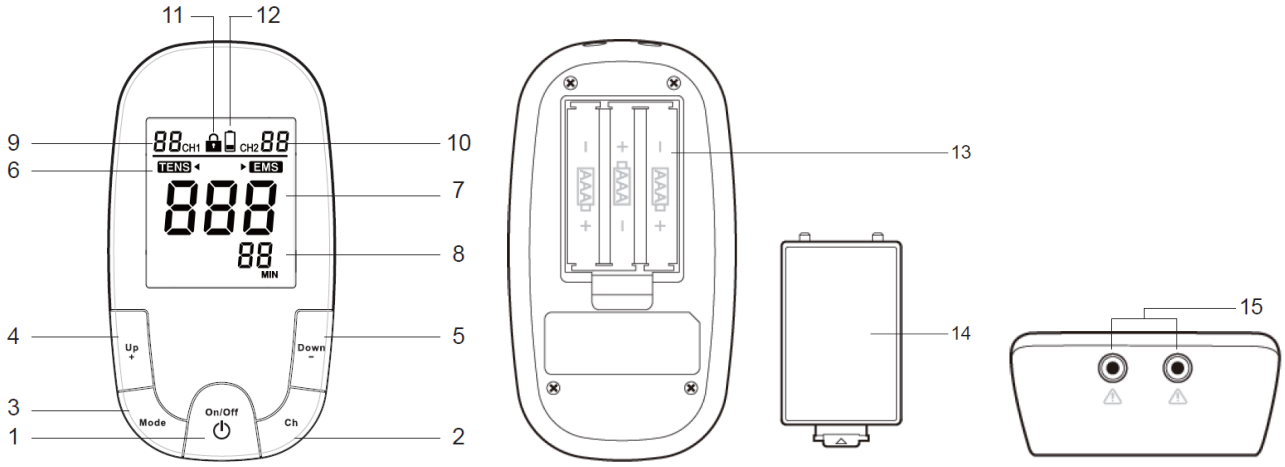
Since the stimulator is a battery-operated electronic system, its output performance and safety may be affected greatly in extreme humidity. Therefore, it is very important to keep the TENS*STIM dry to ensure the safety and performance of the stimulator.

Package Contents

1. ME 211 Device
2. Self Adhesive Electrodes,
   Size: 2 inch square, 4 pcs/bag
3. 3 AAA batteries
4. 2 lead wires
5. Holder



About the Device



1. Power On/Off key
2. CH key
3. Mode key
4. Up + key
5. Down – key
6. Therapy Mode
7. Program number
8. Therapy time remaining
9. CH1 intensity level
10. CH2 intensity level
11. Lock status indicator
12. Battery status indicator
13. Battery compartment
14. Battery cover
15. Output Socket

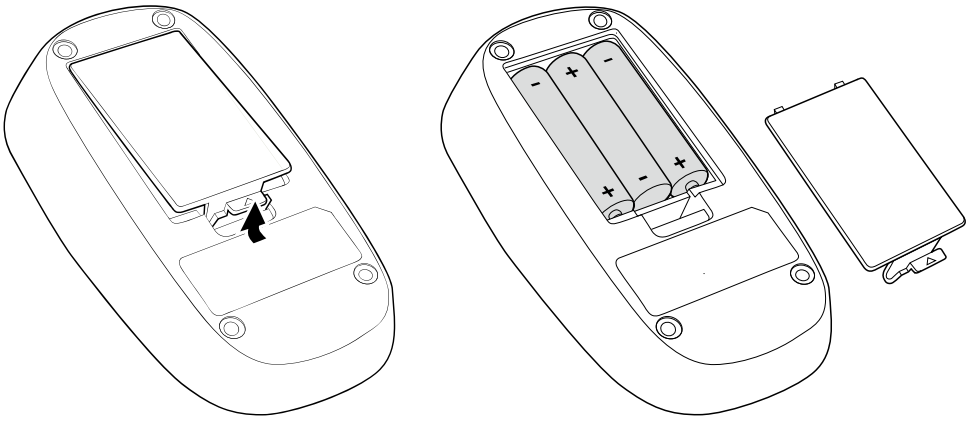
Step by Step Operation Guide for Treatment

Preparing the Skin for Running a Session

Proper preparation of the skin covered by the electrodes allows more stimulation to reach targeted tissues, prolongs electrode life, and reduces the risk of skin irritation. After connecting the lead wire(s) to the stimulator, use the following steps to prepare your skin at the electrode placement sites:

1. Determine the placement sites for the electrodes.
2. Wash the area with mild soap and water (do not use alcohol). Rinse and dry thoroughly.
3. Trim excess body hair from the area with scissors (do not shave).
4. When removing electrodes, always remove by pulling in the direction of hair growth. Pull up a corner of the electrode to remove it. *Do not remove the electrode by pulling on the lead wire.*
5. It may be helpful to apply skin lotion on treatment area after treatment.

Inserting/Changing the Batteries

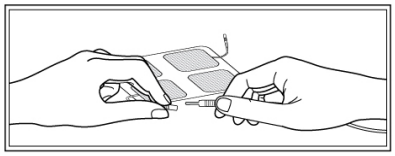


1. Open the battery compartment at the back of the device by pushing the battery cover labelled “Open” downward (this area features raised marks for easy identification).
2. Insert 3 AAA (1.5 V) batteries in the battery compartment; make sure to match up the symbols (+/–).
3. Close the battery cover by carefully placing the stud into the slot in the rear area and sliding it upward, applying slight pressure.
4. Follow the same procedure when replacing the battery at a later date.

▲**Note** : for important precautions regarding the batteries ,please be informed:

- Always use only 3 x 1.5V (AAA) batteries.
- Keep away from children.
- Do not recharge.
- Do not short-circuit.
- Do not throw into a fire.
- Please recycle. Do not dispose of old batteries with your household waste; dispose of them safely at your recycling center.

Connecting the Cable to The Device



Connect the lead wire to the electrodes before applying to the skin.

Placement of the Electrode Pads for TENS (Treatment of Pain)

LOWER BACK

Place a pair of pads horizontally either side of your spine on the lower part of the back.

BOTTOM

Place a pair of pads horizontally across the buttocks halfway between the midlone and side of your body.

FRONT OF THIGHS

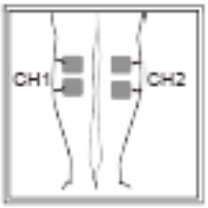
Place each pair of pads horizontally across each thigh muscles.

SHOULDER

Place one half of the pad on the front of your shoulder and the other on the side.

BACK OF THIGHS

Place each pair of pads horizontally across your hamstrings.



CALF MUSCLES

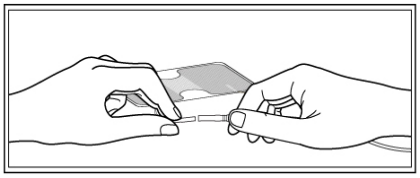
Place each pair of pads horizontally across calf muscles .Do not place them too low on the leg. as this can result in an uncomfortable contraction.

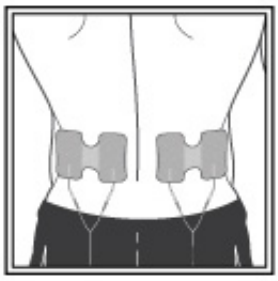
Note: 1. Recommended Electrodes: 2 in. x 4 in. (V Trode, 2704), or larger (e.g. leg muscles, lower back), and 2 inch (V Trode, 2702 or 2705) for smaller areas such as forearm muscles etc.

2. You may need help placing the Electrode Pads on hard to reach areas (lower & upper back).

Placement of the Electrode Pads for EMS

1. Connect the lead wire to the electrodes before applying them to the skin. Use the large Electrode Pads for EMS.
2. The pad placement chart hereafter illustrates the correct placement of the pads for a selection of target muscles.

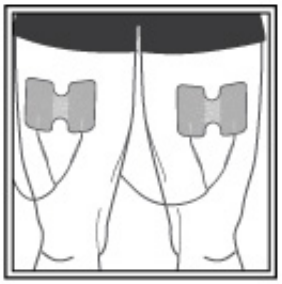




LOWER BACK
Place a pair of pads horizontally either side of your spine on the lower part of the back.

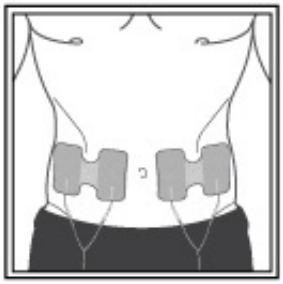
UPPER BACK
Place a pair of pads horizontally either side of your spine on the upper part of the back.

BOTTOM
Place a pair of pads horizontally across the buttocks halfway between the midlone and side of your body.



FRONT OF THIGHS
Place each pair of pads horizontally across each thigh muscles.

SHOULDER
Place one half of the pad on the front of your shoulder and the other on the side.



ABS
Place each pair of pads horizontally either side of your navel.

BACK OF THIGHS
Place each pair of pads horizontally across your hamstrings.

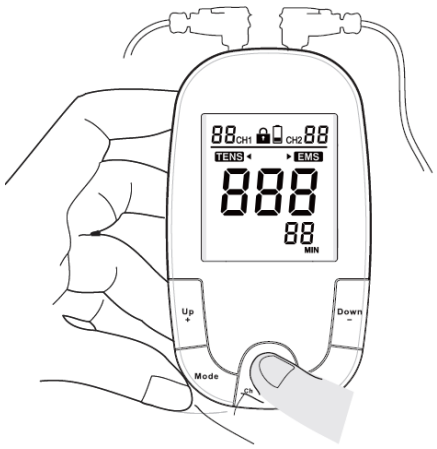
CALF MUSCLES
Place each pair of pads horizontally across calf muscle. Do not place them too low on the leg, as this can result in an uncomfortable contraction.

▲**Note :** 1. When stimulating the muscles of the arms or legs bear in mind that the muscle contraction may cause involuntary limb movement, which could cause injury to you or others. Always ensure the limb is secured to prevent movement.
2. Do not turn the unit on until all electrodes and lead wires are properly attached.

Note: Always start with a low intensity level, increase gradually. You may use any of the modes for EMS.

Turning On/OFF the Device

To Turn ON/OFF the device, Press and hold the On/Off button for one (1) second to turn on the device and hold for three (3) seconds to turn it off.



1. The most recently selected treatment time and program will display on the screen

▲**Note** : When stimulating the muscles of the arms or legs bear in mind that the muscle contraction may cause involuntary limb movement which could cause injury to you or others. Always make sure that the limb is secured to prevent movement.

2. The device turns off automatically after the therapy session time has elapsed.

▲**Note**: In an emergency you may also pull the connector(s) from the device and then remove the electrodes.

▲**Note**: To prevent unpleasant electric shocks, never remove the device or electrodes while it is still turned on.

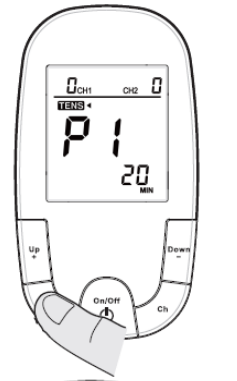
Selecting TENS/EMS Treatment Mode

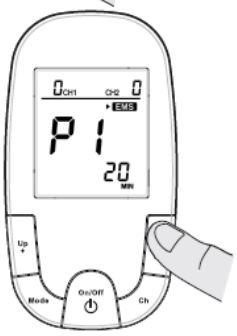
1. Press MODE, the preset (default) therapy mode TENS/EMS will display on the screen.

2. Use the button Up +, or Down –, for choice of therapy mode.

3. Press Mode again, the numeric number of program is then flashing.
   Press the button Up + (to increase) or the button Down – (to decrease) for choice of program of the selected modality.

4. Press MODE again to save your selection.





▲**Note**: If you change programs during the course of a therapy session, the treatment time will not reset unless you manually reset it by performing the steps described above.

Selecting the Program

The Device offers 8 different preset treatment programs respectively for TENS and 6 EMS modes; the programs differ with respect to varying pulse widths and frequencies.

Choice of the appropriate mode

The mode you choose determines the kind of work that is imposed upon the stimulated muscles. Choose the mode that is appropriate to your needs or gives you the greatest pleasure.

For **TENS** programs:

When using any of the 8 programs for pain relief always start with the lowest intensity and gradually increase the intensity until you feel a “tingling” sensation. All programs are different and therefore feel differently. You may try all 8 programs in the beginning and choose one that feels pleasant. Never increase the intensity to a level so that it hurts, always stay under the point of discomfort. Start with short sessions of 5 or 10 minutes until your body gets used to the stimulation.

Program	Max.	Phase duration	Rate	Function mode
P1	80 mA	260 μs	15Hz	Constant
P2	80 mA	260 μs	60Hz	Modulated
P3	80 mA	260 μs	60Hz	Constant
P4	80 mA	260~150 μs	2 ~ 60Hz	Modulated
P5	80 mA	260~150 μs	60Hz	Modulated
P6	80 mA	260 μs	7 <->60Hz	Modulated
P7	80 mA	260~156 μs	60Hz	Modulated
P8	80 mA	210 μs	2.45~245 Hz	Cycle

All electrical specifications ±20%

Program./mode	Benefits	You should feel
P1	-for temporary relief of pain associated with sore and aching muscles in the lower back due to strain from exercise or normal household and work activities.	Continuous comfortable tingling. The underlying pain should decrease gradually after treatment.
P2		Comfortable pulsing sensation. The underlying pain should decrease almost immediately.
P3	- for temporary relief of pain associated with sore and aching muscles in the upper and lower extremities (arm and/or leg) due to strain from exercise or normal household and work activities.	Comfortable pulsing sensation. The underlying pain should decrease almost immediately.
P4		Variable comfortable tingling and pulsing sensation (sensation should appear to come in waves). Pain should ease and there should be relief after treatment.
P5		Variable comfortable mild tingling sensation (sensation will appear to come in waves).
P6		Variable comfortable pulsing and pumping action (action will appear to come in waves).
P7		Variable comfortable tingling and pumping action (action should appear to come in waves).
P8	-for symptomatic relief and management of chronic, intractable pain and relief of pain associated with arthritis.	Variable comfortable tingling and pulsing sensation (sensation should appear to come in waves). Pain should ease and there should be relief after treatment.

For **EMS** programs:

When using the device for muscle stimulation (EMS) any of the 6 programs may be used. The intent is to cause a muscle to contract, and then relax. All 6 programs will achieve contraction and vary mainly by the rate and duration of the contractions. As with any exercise regimen, start out slowly with low intensity levels for a warm-up (5~10min). You may increase intensity level and treatment time as you progress with your muscle performance. Use the device regularly over a longer period of time as to maintain the benefit you may have gained during “exercise”.

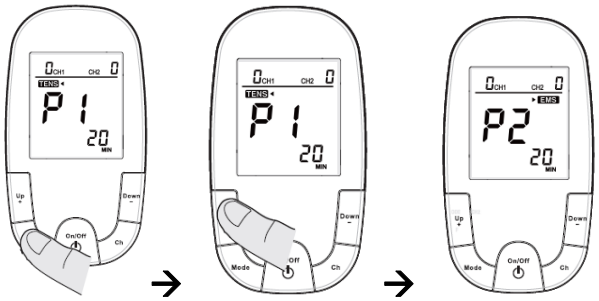
	Pulse Width (μs)	Ramp up (sec)	Hold on (sec)	Ramp down (sec)	Off Time (sec)	Pulse rate (Hz)
P1	300	-	2	-	1	40~99
P2	200	-	-	-	-	4
P3	300	-	-	-	-	5
P4	200	-	2	-	1	99
P5	200	2	6	2	1	4~20
P6	300	2	5	3	10	50

All electrical specifications are ±20%

Mode / Exercise Program	You should Feel & Benefits	Suggestion
P1 Exercise Preparation	This program gently warms up the muscles prior to exercise; it feels like a rhythmic massage.	Increase the intensity until you get a strong but comfortable muscle movement, 10 min/duration.
P2 Active Recovery	This program produces muscle twitches at very low frequency and it feels like a tapping massage, for muscle recovery from fatigue and becoming more relaxed with reduced stiffness.	Use it after intense exercise to promote recovery and relaxation, 30 min/duration.
P3 Active Recovery	This program is similar to P2, except that the muscle twitch rate slows down during the session. It feels like a tapping massage, but softer than P2.	Use it after intense exercise to promote recovery and relaxation, 20 min/duration.
P4 Active Recovery	This program activates the muscle in a short contraction/relaxation cycle. It feels like a kneading massage, smother than P2/P3.	Use it after intense exercise to promote recovery and relaxation, 20 min/duration.
P5 Build Endurance	This program uses a low frequency pulse train which favors slow twitch fibers, for developing aerobic capacity and capillary supply. It improves fatigue resistance during long duration moderate intensity exercise.	The exercise comprises an alternating sequence of work and rest phases lasting several seconds. Increase the intensity until you get a strong and deep muscle contraction. Do not exceed your comfort level, 20min/duration.
P6 Muscle Strengthening	This program uses a pulse frequency appropriate to fast twitch muscle fibers. It improves their anaerobic capacity and is used for improving maximum muscle strength.	The exercise comprises a sequence of work phases separated by longer relaxation phases. Increase the stimulation intensity until you get a strong and deep contraction. Do not exceed your comfort level, 20 min./Duration.

The Device offers 8 different preset treatment programs respectively for TENS and 6 EMS modes; the programs differ with respect to varying pulse widths and frequencies.

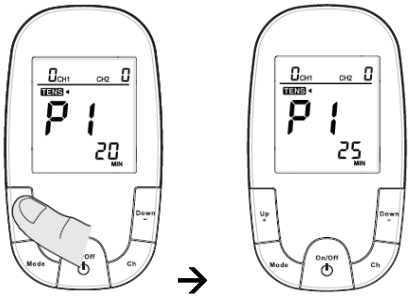
1. Press the button ON + (to increase) or the button OFF – (to decrease) for choice of program of the selected modality.



▲**Note** : If you change programs during the course of a therapy session, the treatment time will not reset unless you manually reset it by performing the steps described below.

Selecting the Treatment Time

1. Press MODE. The preset (default) treatment time will flash on the display.
2. To increase or decrease the treatment time, press the button ON + (to increase) or the button OFF – (to decrease) repeatedly until the desired duration appears on the display.
3. Press MODE again to save your selection. The treatment time you selected will appear in the display the next time you turn on the device.



▲**Note:** If you change programs during the course of a therapy session, the treatment time will not reset unless you manually reset it by performing the steps described above.

Selecting the Therapy Intensity Level

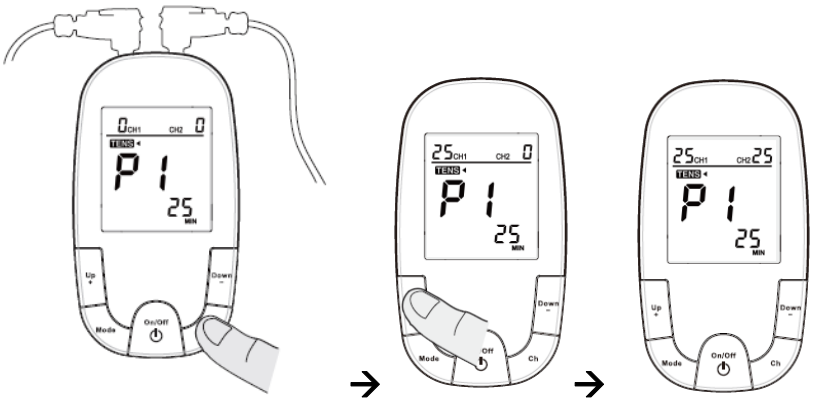
This device offers a maximum of 25 intensity levels.

The design of the device does not allow the user to modify any of the electrical parameters. The only adjustment that can be made is the electrical intensity which is set to a predetermined maximum current that is well within safe limits. The intensity of the electrical current determines the number of working fibers in the stimulated muscles. The lower the current intensity, the lower the number o f working fibers in the muscle. The higher the current intensity, the greater the number of working fibers in the muscle.

If using the device for help with temporary relief of pain associated with sore and aching muscles, you will find that setting the current intensity to your own comfortable and pleasing level will give you much satisfaction. This level is different for each user so adjust it slowly.

If you desire to stimulate healthy muscles (EMS) in order to improve and facilitate muscle performance then you want to stimulate a significant number of working fibers. You will require a minimum intensity of approximately 30 mA to accomplish this. You can achieve this relatively quickly in 2 to 3 sessions, by progressively increasing the intensity during the session. Once this threshold is reached, continue to progressively increase the current intensity making the session more effective.

1. Intensity is adjustable according to the channel selected.
   Select the channel you wish to adjust by pressing CH1 or CH2. “CH1” or “CH2” will flash on the display.
2. To increase or decrease the intensity, press ON + (to increase) or OFF – (to decrease) repeatedly until the desired intensity level flashes on the display.



▲ **Note** : You will feel the intensity increase or decrease as you select the intensity level. You can use this as a guide to select a level that is comfortable for you.

▲ **Note** : If you change therapy mode/program during the course of a therapy session, the intensity level will reset to “0” for safety reasons.

3. Press MODE to save your selection.

▲ **Note:** It is suggested that treatment frequency is 3 times per day

Never set intensity so that the stimulation becomes extremely uncomfortable.

SPECIAL FEATURES

Treatment Time

The device offers 12 preset times: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55 and 60 minutes.
Time will count down on the display in 1-minute increments for the duration of your session.

- The device turns off automatically when the therapy time has elapsed.
- The most recently set therapy time is stored.
- If you alter the program mode during your therapy, the therapy time won't restart, unless you reset the therapy time.
- The last treatment program you used will appear on the display, when you turn on the device.
- To change the program, press **ON +** or **OFF –** repeatedly until the desired program appears on the display.
- Press **MODE** to save your selection. The program you selected will appear on the display the next time you turn on the program.

Lock Function

Press and hold the **ON +** and **OFF –** keys simultaneously for 1 second to lock/unlock the device.
The Lock Function prevents accidental intensity changes when buttons are "bumped".

Automatic Shut off

- If a treatment has not been started, the device will automatically turn off when no button is pressed for 60 seconds.
- The device automatically turns off when the time for your therapy session has elapsed.

Intensity Level Reset

For your safety and comfort, the intensity level will reset to **"0"** each time the device turns off and after the therapy session has elapsed.

The treatment will discontinue if the electrodes are not properly placed well, and/or any entry for changing the mode setting during therapy session, it shall initiate to lowest intensity level, showing "0" on the screen.

Low Battery Status Indicator

The battery status indicator will light whenever the battery is low. This means that soon you have to replace the batteries.

CARE AND MAINTENANCE

Stimulator

The stimulator may be wiped clean with a small amount of soapy water on a clean cloth. Do not submerge the stimulator in liquids or expose it to large amounts of water.

- Never use aggressive cleaning products of stiff brushes to clean the device.
- Remove the battery before cleaning the device.
- Do not use the device again until it is completely dry.
- Do not expose the device to direct sunlight and protect it from dirt and moisture.

Cables

- Disconnect the cables from the stimulator and electrodes.
- Do not pull on the cables, but on the connectors attached to the ends of the cables.
- Store the stimulator with the cables in a clean, dry place.

Electrode

The electrode pads are disposable and use an adhesive that will dry after prolonged usage or storage. Pads should be replaced when they lose their adhesive quality, or you sense a change in stimulation sensation.

If you're in doubt about the integrity of the pads, order fresh pads at *www.mettlerelectronics.com* , or contact an authorized distributor.

How to Store Your TENS*STIM

1. Store your TENS*STIM at room temperature in a dry place, out of the reach of children.
2. If the stimulator will not be used for more than a week, remove the batteries from the stimulator.

TROUBLE SHOOTING

Always check the unit and accessories before use to prevent damage and defects; these are some of the simple checks:

1. Make sure the batteries have sufficient charge and are not corroded.
2. Make sure the cables fit tightly into the connection sockets of the device. The table below shows some common defects. Contact your unit provider if it is not possible to remedy any defects in the manner described below.

Symptom	Cause	Remedy
The device does not turn on	No battery or bad batteries	Replace batteries
The device turns on and then off again	Batteries not inserted properly	Insert batteries again Replace batteries
	Battery life expired	Replace batteries
The device turns on, but does not generate electric pulses	Cable broken	Replace cable
	Cable not connected Properly	Connect cable properly
	Treatment time has Expired	Switch unit to the OFF Position and switch back on.
The unit does not turn on even though new batteries have been inserted		Contact Mettler Electronics or your distributor

ME 211 STIMULATOR TECHNICAL SPECIFICATIONS

Channel:	Dual, isolated between channels
Pulse Amplitude:	Adjustable 0 – 80mA peak into 500Ω load each channel; RMSV at 3.5 V (max.), RMSA at 1.3mA (max.)
Pulse Rate:	As pre-programming operation mode
Pulse Width:	As pre-programming operation mode
Timer:	5~60 min. selectable
LCD:	Shows modes, pulse rate, pulse width, timer, CH1/CH2, intensity level
Wave Form:	Symmetrical Bi-Phasic square pulse
Max Charge per Pulse:	20.8 micro-coulombs maximum

** *All electrical specifications are ±20% at 500Ω load.*

Operating Conditions:	+ 50°F (10°C) to +104° (40°C), 40-90% max. Relative humidity
Transportation & Storage Condition:	+14°F (-10°C) to +140° (60°C), 30-95% max. Relative humidity
Weight:	75 g (batteries included)
Dimensions:	90 x 52.5x19.38 mm
Power Source:	3 x AAA (1.5 V) batteries for a total of 4.5 V

(i) There are a number of technical symbols on your unit explained as follows:

Ser No.	This symbols means " Serial number "
	This symbols means " Attention, consult the accompanying documents"
	This symbol means type BF equipment; this device offers protection against electrical shock by standard compliance to leakage currents of electrode pad.
	This device shall be disposed in accordance with national laws after their useful lives

(ii) there is a label on the package of electrode that explains as follows:

	This symbol means "used before", represent as "YYYY-MM" (for year and month).

ELECTROMAGNETIC COMPATIBILITY

- The device complies with current specifications with regard to electromagnetic compatibility and is suitable for use in all premises, including those designated for private residential purposes. The radio frequency emissions of the device are extremely low and in all probability do not cause any interference with other devices in the proximity.
- It is recommended that you do not place the device on top of or close to other electronic devices. Should you notice any interference with other electrical devices, move the device or connect it to a different socket.
- Radio equipment may affect the operation of this device.

ELECTROMAGNETIC COMPATIBILITY INFORMATION

<table>
<tr><th colspan="3">Guidance and manufacturer's declaration – electromagnetic emissions</th></tr>
<tr><td colspan="3">The ME 211 is intended for use in the electromagnetic environment specified below. The customer or the user of the ME 211 should assure that it is used in such an environment.</td></tr>
<tr><th>Emissions</th><th>Compliance</th><th>Electromagnetic environment-- guidance</th></tr>
<tr><td>RF emissions
CISPR 11</td><td>Group 1</td><td>The ME 211 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.</td></tr>
<tr><td>RF emissions
CISPR 11</td><td>Class B</td><td rowspan="3">The ME 211 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.</td></tr>
<tr><td>Harmonic emissions
IEC 61000-3-2</td><td>Class C</td></tr>
<tr><td>Voltage fluctuations/
flicker emissions
IEC 61000-3-3</td><td>Complies</td></tr>
</table>

Guidance and manufacturer's declaration – electromagnetic immunity			
The ME 211 is intended for use in the electromagnetic environment specified below. The customer or the user of the ME 211 should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment --guidance**
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines	± 2 kV for power supply lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) and neutral	± 1 kV line(s) and neutral	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % U_T (>95 % dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5s	<5 % U_T (>95 % dip in U_T) for 0,5 cycle 40 % U_T (60 % dip in U_T) for 5 cycles 70 % U_T (30 % dip in U_T) for 25 cycles <5 % U_T (>95 % dip in U_T) for 5s	Mains power quality should be that of a typical commercial or hospital environment. If the user of the ME 211 requires continued operation during power mains interruptions, it is recommended that the ME 211 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	Not applicable	Not applicable
NOTE U_T is the a.c. mains voltage prior to application of the test level			

Guidance and manufacturer's declaration – electromagnetic immunity			
The ME 211 is intended for use in the electromagnetic environment specified below. The customer or the user of the ME 211 should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance Level**	**Electromagnetic environment – guidance**
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the ME 211, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2.5 GHz	3 V/m	$d = 1{,}2\sqrt{P}$ $d = 1{,}2\sqrt{P}$ 80 MHz to 800 MHz $d = 2{,}3\sqrt{P}$ 800 MHz to 2,5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation Distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range.b Interference may occur in the vicinity of equipment marked with the following symbol: 
NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the ME 211 is used exceeds the applicable RF compliance level above, the ME 211 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the ME 211.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Recommended separation distances between portable and mobile RF communications equipment and the ME 211			
The ME 211 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the ME 211 help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the ME 211 as recommended below, according to the maximum output power of the communications equipment.			
Rated maximum output power of transmitter **W**	**Separation distance according to frequency of transmitter** **m**		
	150 kHz to 80 MHz $d = 1{,}2\sqrt{P}$	**80 MHz to 800 MHz** $d = 1{,}2\sqrt{P}$	**800 MHz to 2.5 GHz** $d = 2{,}3\sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.38	0.38	0.73
1	1.2	1.2	2.3
10	3.8	3.8	7.3
100	12	12	23
For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer. NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies. NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

WARRANTY

This Mettler Electronics TENS*STIM, Model no. ME 211, carries a one-year warranty from the date of purchase.

The warranty does not apply to damage resulting from failure to follow the operating instructions, accidents, abuse, alterations or disassembly by unauthorized individuals.

The warranty applies to the main device and necessary parts and labor relating thereto. Batteries, lead wires, electrodes, and other accessories are warranted to be free from defects in workmanship and materials at the time of delivery.

The distributor reserves the right to replace or repair the unit at their discretion.

Distributed by:
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