EMG Pro

DQEMG

INSTRUCTION MANUAL

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This manual is valid for the EMG Pro.

This instruction manual is published by Compass Health Brands Corp.

Compass Health Brands Corp. reserves the right to improve and amend this manual at any time without prior notice. Amendments may however be published in new editions of this manual.

Caution: Federal law restricts this device to sale by or on the order of a practitioner licensed by the law of the State in which he/she practices to use or order the use of the device.

FCC SUPPLIER'S DECLARATION OF CONFORMITY

Product Name: EMG Pro
Item Number: DQEMG
Responsible Party:
Compass Health Brands Corp.
6753 Engle Road,
Middleburg Heights, OH 44130

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to a radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CONFORMITY TO SAFETY STANDARDS

Compass Health Brands declares that the EMG Pro complies with the following:

IEC 60601-2-10, IEC 60601-2-40,
IEC 60601-1, IEC 60601-1-2

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TABLE OF CONTENTS

SYMBOLS

GLOSSARY OF SYMBOLS

	Type BF applied part.
	Refer to instruction manual / booklet.
	Electrical devices are recyclable material and should not be disposed of with household waste after their useful life. Help us protect the environment and save resources and by taking this device to the appropriate collection point. Please contact the organization which is responsible for waste disposal in your area if you have any questions.
	Temperature limitation Transportation and Storage Temperature: 32°F ~ 104°F (0°C ~ 40°C). Operation Temperature: 41°F ~ 104°F (5°C ~ 40°C)
	Transportation and Storage Humidity: 0% to 93%. Operation Humidity: 30% - 75%
	Operation and Storage Atmospheric Pressure: 700hPa ~ 1060hPa
	Serial Number.
	Date of Manufacture.
	Caution: Federal law restricts this device to sale by or on the order of a practitioner licensed by the law of the State in which he/she practices to use or order the use of the device.
	Interference may occur in the vicinity of equipment marked with this symbol.
	Keep dry.

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INTRODUCTION

The EMG Pro is a single channel, hand-held, non-sterile, battery-powered, multi-patient device intended to be used by adult patients under the supervision of a trained clinical healthcare provider.

The device contains EMG biofeedback (Electromyography), TENS (Transcutaneous Electrical Nerve Stimulation), ETS (EMG triggered electrical stimulation) and NMES (Neuromuscular Electrical Stimulator). Each mode has pre-set and custom programs. The parameters of the device are controlled by buttons. The level of intensity is adjustable to the needs of the patient and treatments prescribed by their healthcare providers. The device is intended to be used for muscle stimulation for the purposes of urinary incontinence treatment, pain management, muscle strengthening and training, as well as muscle relaxation and re-education.

The device is designed to provide safe and effective electrical stimulation by sending small electrical currents to underlying nerves and muscle groups via electrode pads applied on the skin or through a vaginal probe/rectal probe (for incontinence treatment protocols only). It can be used with or without linkage to a PC. Connecting the device with the PC via USB cable, the data can be transmitted between PC and device. Software purchased separately.

EMG biofeedback is a technique used to help a patient detect their level of muscle recruitment in real-time. The patients level of muscle activation if shown via the EMG biofeedback bar graph or waveform format viewed on the LCD screen of the unit. Surface EMG is used for recording superficial muscles during rehabilitation, where intramuscular electrodes are used for investigating deep muscles or localized muscle activity.

NMES is the elicitation of muscle contraction using electrical impulses. The impulses are generated by the device and delivered through the electrodes or via the probe. The impulses mimic the action potential coming from the central nervous system, causing the muscles to contract. NMES has been used to stimulate muscle and nerve fibers for muscle strengthening, maintenance of muscle mass and strength during prolonged periods of immobilization, and selective muscle retraining.

ETS (i.e. EMG triggered stimulation), involves initiating a voluntary contraction for a specific movement until the muscle activity reaches a threshold level. As soon as the EMG activity reaches a target threshold then an assisting electrical stimulus begins which helps to support the contracted muscle. A microprocessor connected to the surface electrodes, vaginal probe or rectal probe monitors the EMG activity levels as well as administers the neuromuscular stimulation. The target threshold could be set to an automated regime when it increases and decreases based on muscle performance.

TENS provides a non-invasive, low-risk nerve stimulation in order to reduce pain (both acute and chronic). In TENS, mild electrical impulses are transmitted through the skin via surface electrodes to relieve muscle pain by modifying the body's pain perception. TENS does not cure problematic physiological conditions: it only helps to control the pain perception.

The essential performance of the device is free from the production of unwanted or excessive output.

INTRODUCTION

INTENDED USE

NMES

- Relaxation of muscle spasms
- Prevention or retardation of disuse atrophy
- Increasing local blood circulation
- Muscle re-education
- Immediate post-surgical stimulation of calf muscles to prevent venous thrombosis
- Maintaining or increasing range of motion

ETS (NONIMPLANTED ELECTRICAL CONTINENCE DEVICE ONLY)

- Acute and ongoing treatment of stress, urge or mixed urinary incontinence and where the following results may improve urinary control: Inhibition of the detrusor muscles through reflexive mechanisms and strengthening of pelvic floor muscles
- Incontinence treatment for assessing EMG activity of the pelvic floor and accessory muscles (abdominal or gluteal)

TENS

- Symptomatic relief and management of chronic (long-term), intractable pain
- Adjunctive treatment in the management of post-surgical pain and post traumatic acute pain

EMG

- Biofeedback, relaxation muscle training and muscle re-education

CONTRAINDICATIONS

The TENS, NMES and ETS function of this device MUST NOT be used in combination with the following medical devices:

- Implanted electronic medical devices, such as pacemakers. This may cause electric shock, burns, or death.
- Electronic life support equipment, such as respirators.
- Electronic medical devices worn on the body, such as electrocardiographs.
- If use this device together with other electronic medical devices, these devices may not work correctly.

STIM: NEUROMUSCULAR STIMULATION (NMS)

Before using this device you must first seek the advice of your doctor or therapist.

Neuromuscular Stimulation **SHOULD NOT** be used by:

- Patients fitted with demand style cardiac pacemakers.
- During pregnancy (unless medically advised).
- Patients with undiagnosed pain conditions.

DO NOT place electrodes:

- Over carotid sinus nerves.
- Over larynx or trachea.
- Inside mouth.
- On anesthetized or desensitized skin.

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SAFETY INFORMATION

- **DO NOT** drive a vehicle while the device is stimulating and attached to your body.
- Skin irritation from the treatment of NMS or EMG itself does not generally occur. However, rubber electrodes may irritate some skin types, therefore; in this case we recommend using hypoallergenic self adhesive electrodes.
- The patient should only use the device for what it was prescribed for.
- **DO NOT** immerse the device in water or any other liquid substance.
- **DO NOT** use stimulation on your facial area unless you are under strict guidance from a qualified clinician.

EMG

EMG SHOULD NOT be used:

- During menstrual period.
- Inflammation or infection in the vaginal area or urinary tract.
- With patients who have diminished mental capacity or physical competence who cannot handle the device properly.
- The absence of sensation due to degeneration of the pelvic floor.
- **NOT FOR USE IN CHILDREN.**

WARNINGS

- This device must be used with the guidance of a clinician.
- Type BF equipment, Continuous Operation.
- **DO NOT** immerse device into water or any other substance.
- **DO NOT** use the device in the presence of a flammable anesthetic gas mixture and air or with Oxygen or Nitrous Oxide.
- This device uses 4 x AA Batteries. If using rechargeable Nickel Metal Hydride batteries, be sure to use a battery charger that complies with IEC60601-1 or IEC 62368-1 standards. **NEVER** connect it directly to a battery charger or to any other mains powered equipment.
- To avoid the effects of electromagnetic interference, **NEVER** use the device in the EMG mode, within 4 meters of a mobile telephone or near any other powerful radio interference producing equipment that causes electrical sparks etc. In the EMG mode, the device may be susceptible to strong interfering radio type emissions that may lead to temporarily increased EMG microvolt readings. The reading will immediately return to the correct value when the interference ceases. (Remember that a relaxed muscle should read below 4µV).
- Patient electrodes including all skin surface electrodes, vaginal and rectal probe are for single patient use **ONLY**.
- **DO NOT** use stimulation on your facial area unless you are under strict guidance from a qualifed clinician.
- Application of electrodes near the thorax may increase the risk of cardiac fibrillation.
- Operation in close proximity (e.g. 1m) to a shortwave or microwave therapy equipment may produce instability in the stimulator output.

SAFETY INFORMATION

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Simultaneous connection of a patient to a high frequency surgical equipment may result in burns at the site of the stimulator electrodes and possible damage to the stimulator.
- NO modification of this equipment is allowed.
- Keep the device out of reach of children
- Skin irritation from the electrode gel and electrode burns are potential adverse reactions. If skin irritation occurs, discontinue use and consult your physician.
- **DO NOT** apply stimulation over the patient's neck because this could cause severe muscle spasms resulting in closure of the airway, difficulty in breathing, or adverse effects on heart rhythm or blood pressure.
- **DO NOT** apply stimulation in the presence of electronic monitoring equipment (e.g., cardiac monitors, ECG alarms), which may not operate properly when the electrical stimulation device is in use.

EMG

- This device is designed for use by and on an adult person. For hygienic reasons electrodes should not be shared between individuals.
- Electrode placement and stimulation settings should be based on the guidance of the prescribing practitioner.
- To avoid the effects of electromagnetic interference, **NEVER** use the device in the EMG mode, within 4 meters of a mobile telephone or near any other powerful radio interference producing equipment that causes electrical sparks etc. In the EMG mode, the device may be susceptible to strong interfering radio type emissions that may lead to temporally increased EMG microvolt readings. The reading will immediately return to the correct value when the interference ceases. (Remember that a relaxed muscle should read below 4µV).

TENS AND NMES

- Not for use with patients with undiagnosed pain conditions.
- Pregnant women **MUST NOT** be treated with this device.
- **DO NOT** use the device on the neck. This could cause severe muscle spasms that may result in closure of your airway, breathing difficulties, or adverse effects on heart rhythm or blood pressure.
- **DO NOT** use the device across chest. The device introduces electrical current. Using the device in your chest may cause rhythm disturbances to your heart, which could be lethal.
- Because the effects of stimulation on the brain are unknown, **DO NOT** use the device on opposite sides of your head.
- Stimulation should not be applied on the eyes, mouth, face, front of neck (especially in the carotid sinus), head, upper back, or across your heart because this could cause severe muscle spasms resulting in closure of your airway, difficulty breathing or adverse effects on heart rhythm or blood pressure.
- Use the device only on normal, intact, clean, and healthy skin.

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SAFETY INFORMATION

- Ensure NO residual skin lotions or conductive gels are left on the skin prior to using the electrodes as this can result in burns due to inadequate adhesion.
- **DO NOT** use the device over open wounds or rashes, and over swollen, red, infected, or inflamed areas or skin eruptions (e.g., phlebitis, thrombophlebitis, varicose veins).
- **DO NOT** use the device over, or close to, cancerous lesions.
- **DO NOT** use the device in the presence of electronic monitoring equipment (e.g., cardiac monitors, ECG alarms). This equipment may not operate properly when the electrical stimulation device is in use.
- Only use the device for which it was prescribed.
- **DO NOT** use the device when in the bath or shower.
- **DO NOT** use the device while sleeping.
- **DO NOT** use the device while driving, operating machinery, or during any activity in which electrical stimulation can put you at risk of injury.
- Stimulation should not take place while the user is connected to high-frequency surgical equipment, it may cause burn injuries on the skin under the electrodes, as well as problems with the stimulator.
- **DO NOT** use the stimulator in the vicinity of shortwave or microwave therapy equipment, since this may affect the output power of the stimulator.
- This device **CANNOT** be used simultaneously with another TENS device.
- Electrode placement and stimulation settings should be based on the guidance of the prescribing practitioner.
- It is recommended not to exceed a current density of 2 mA/cm^2, otherwise skin irritations or burns can occur.
- Use specific size electrodes provided by manufacturer to avoid skin irritations or burns.
- For smaller electrodes, the maximum current setting of the waveform should be appropriately reduced.
- Place the electrodes carefully, ensure that the entire surface of the electrode has good contact with the skin.
- Avoid accidental contact between connected but unused applied parts and other conductive parts including those connected to protective earth.
- The long-term effects of chronic electrical stimulation are unknown.
- Stimulation should not be applied over the carotid sinus nerves, particularly in patients with a known sensitivity to the carotid sinus reflex.
- Stimulation should not be applied over the neck or mouth. Severe spasm of the laryngeal and pharyngeal muscles may occur and the contractions may be strong enough to close the airway or cause difficulty in breathing.

ETS

Except the above warnings of EMG and NMES, the following warnings should be followed:

SAFETY INFORMATION

- People with extra-urethral incontinence (fistula, ectopic ureter) **MUST NOT** be treated with probe.
- People with overflow incontinence due to outflow obstacle **MUST NOT** be treated with probe.
- People with serious retention of urine in the upper urinary tract **MUST NOT** be treated with probe.
- People with complete peripheral denervation of the pelvic floor **MUST NOT** be treated with probe.
- **DO NOT** use probe for treatment during menstruation, vaginal or urinary tract inflammation or infection.
- The probe is for single patient use, in order to avoid mutual infection, **DO NOT** cross-use.

⚠ PRECAUTIONS

GENERAL

- If the stimulator is not functioning properly or you feel discomfort, immediately stop using the device.
- **DO NOT** use for any other purpose except for what it is intended for.
- Dispose of the device, batteries, and components according to applicable legal regulations. Unlawful disposal may cause environmental pollution.
- Keep the device away from children. The device contains small pieces that may be swallowed. The lead wire may cause strangulation.
- **DO NOT** maintain or service the device while the device is in use.
- **DO NOT** modify the device or the electrodes without authorization of the manufacturer. This could cause improper functioning.
- **DO NOT** use the device if it is damaged. The continuous use of a damaged unit may cause injury, improper results, or serious danger.
- Use this device only with the electrodes, and accessories recommended by the manufacturer.
- **ALWAYS** end the device before you remove the device or the electrodes. If you **DO NOT** end the treatment, you may get an unpleasant sensation in your fingers when you touch the buckle. This sensation is not harmful, but it can be unpleasant.
- Remove batteries when the device is not being used for an extended period of time. Please dispose of battery following local regulations.

EMG

- The electrical conductive gel may cause skin irritation or hypersensitivity, the irritation can usually be reduced by alternate electrode placement.

In this case EMG **SHOULD NOT** be used:

- During menstrual period
- When a patient has inflammation or infection in the vaginal area or urinary tract.
- With patients who have diminished mental capacity or physical competence who cannot handle the device properly.

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SAFETY INFORMATION

- When patients have absence of sensation due to denervation of the pelvic floor.
- **NOT** for use in children.

TENS AND NMES

- Electrical stimulation or the electrical conductive gel may cause skin irritation or hypersensitivity, the irritation can usually be reduced by alternate electrode placement.
- Caution should be used for patients with suspected or diagnosed heart problems.
- Caution should be used for patients with suspected or diagnosed epilepsy.
- Caution should be used when there is a tendency to hemorrhage following acute trauma or fracture.
- Caution should be used following recent surgical procedures when muscle contraction may disrupt the healing process.
- Caution should be used over areas of the skin which lack normal sensation.
- If irritation should occur, treatment should be temporarily discontinued. If problems continue, contact your health care provider. Hypersensitivity can occur in isolated cases.
- NMES **SHOULD NOT** be used by patients fitted with demand style cardiac pacemakers
- NMES **SHOULD NOT** be used during pregnancy, unless medically adviced.
- NMES **SHOULD NOT** be used on patients with undiagnosed pain conditions.
- **DO NOT** place electrodes over carotid sinus nerves, larynx or trachea, inside mouth, on anaesthetized or desensitized skin.
- **DO NOT** drive a vehicle while the device is stimulating and attached to your body.
- The patient should only use the device for what is was prescribed for.
- **DO NOT** immerse the device in water or any other liquid substance.
- **DO NOT** use stimulation on facial area unless you are under strict guidance from a qualified clinician.

ETS

All precautions above should be followed along with the following:

- Patients with total/subtotal prolapsed uterus/vagina should be stimulated with greatest caution.
- Patients with urinary tract infections must be treated and clear of infection before starting therapy with this device, Consult your doctor.

ADVERSE REACTIONS

GENERAL

- Stop using the device and consult your physician if you experience adverse reactions from the device.
- Possible allergic skin reaction to tape or gel may occur.

TENS, NMES AND ETS

- You may experience muscle exhaustion or muscle soreness after extended use on the same muscles (more than 30 minutes a session, up to 3 times a day).

PACKAGE CONTENTS

EMG PRO PACKAGE CONTENTS

Description	SKU#	QTY
EMG PRO	DQEMG	1
2" x 2" Multistim Electrodes (4/pk)	400-8772	2
EMG Reference Lead Wire	EMG-RLW	1
EMG Channel Lead Wire	EMG-CLW	1
EMG USB Cable	EMG-USB	1
EMG Device Stand	EMG-STAND	1
EMG Carrying Case	EMGCC	1

EMG PRO WITH PROBES PACKAGE CONTENTS

Description	SKU#	QTY
EMG PRO	DQEMG	1
EMG Vaginal Probe	EMG-VP	1
EMG Rectal Probe	EMG-RP	1
2" x 2" Multistim Electrodes (4/pk)	400-8772	2
EMG Reference Lead Wire	EMG-RLW	1
EMG Channel Lead Wire	EMG-CLW	1
EMG USB Cable	EMG-USB	1
EMG Device Stand	EMG-STAND	1
EMG Carrying Case	EMGCC	1

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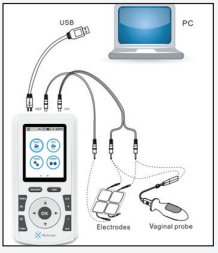
ABOUT THE DEVICE

OPERATION INSTRUCTIONS

1. **ON/OFF**
   press to power on or switch off the device
2. **ESC**
   press to finish the session (program) or the settings, or return to previous menu
3. **THRS [▲] THRS [▼]**
   adjust the EMG threshold level (ETS target) and adjust the other parameters and settings
4. **mA [+] and mA [-]**
   start the STIM or ETS phase, increase or decrease the stimulation intensity
5. **OK**
   press to complete selection
6. **[▲] [▼] [►] [◄]**
   select mode in main menu, or switch parameter and settings

LEAD WIRE AND ELECTRODE ASSEMBLY

REF:	Reference wire (REF) for precise EMG measurement
CH:	Dual conductor lead wire for STIM or EMG
USB Cable:	Connection to the PC

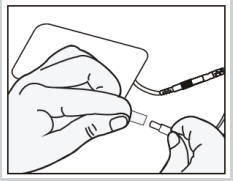


Note: The REF lead/ electrode is only required for EMG and ETS and NOT for STIM. Probes are sold separately.

ELECTRODE PLACEMENT

ELECTRODE PADS

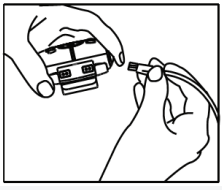
1. Connect electrode pads to lead wires. Insert the lead wire connector into electrodes connector. Make sure no bare metal of the pins is exposed.



Electrode connection

2. Make sure the device is turned off. Connect lead wires to the device. Hold the lead wire cable plug and insert it into the socket on the device.

Note: The color of the channel port corresponds with the color of the wire connector.



Device connection

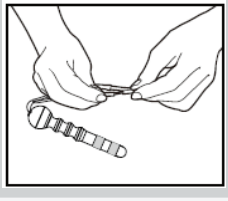
3. Apply electrodes to the exact body site indicated by your physician. Make sure the electrodes are in complete contact with the skin.

Note:

- Before applying the electrode to the skin, use soap and water to wash your skin. Then dry skin thoroughly.
- Save the electrode packet and sheet for later use and storage of your electrode pads.
- The electrode pads have a typical life span of 15-20 uses.

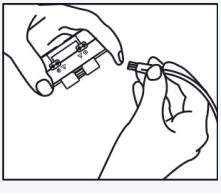
RECTAL PROBE

1. Connect rectal probe to lead wire. Insert the lead wire connector into probe connector. Make sure no bare metal of the pins is exposed.



Rectal probe connection

2. Make sure the device is turned off. Connect the lead wires to the device. Hold the lead wire cable plug and insert it into the socket (CH1) on the device.



Device connection

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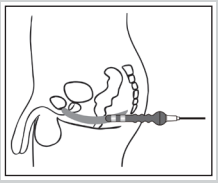
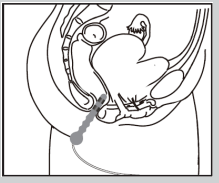
ELECTRODE PLACEMENT

3. Apply a suitable lubricant to the rectal probe and gently insert it into the anus, as shown on the right.

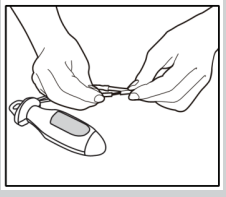




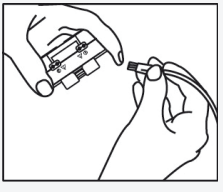
Position of rectal probe

VAGINAL PROBE

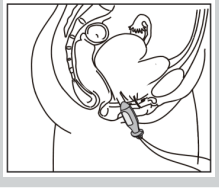
1. Connect vaginal probe to lead wire. Insert the lead wire connector into probe connector. Make sure no bare metal of the pins is exposed.



2. Make sure the device is turned off. Connect the lead wires to the device. Hold the lead wire cable plug and insert it into the socket (CH1) on the device.



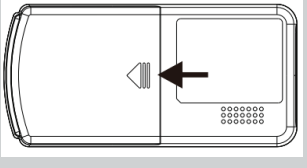
3. Apply a thin coating of lubrication gel to the probe, slowly and gently insert into vaginal cavity until the flange at the base of the electrode is located between the labia.



BATTERY INFORMATION

INSTALLING BATTERIES

1. Remove battery cover.



BATTERY INFORMATION

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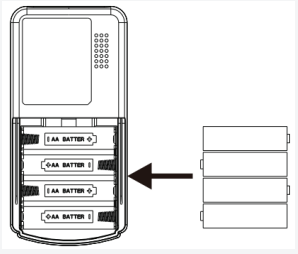
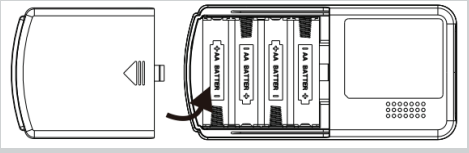
2. Insert four AA batteries. Make sure the polarity of batteries correspond to the sign on battery box.

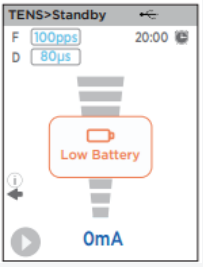


3. Reposition the battery cover back onto device.



REPLACING BATTERIES

1. When low battery alert displays on screen, it's time to replace with new AA batteries.



QUICK START GUIDE

THERAPIST MODE QUICK START

Read all instructions, warnings and cautions prior to use of this device.

1. **Install batteries**
2. **Insert the lead wires**
   Insert the lead wires into the sockets of the device. The round black EMG reference lead wire connects to the round black socket at the top of the unit and the red stimulation lead wire connects to the red socket.
   Note: If you don't use the round EMG reference wire (REF), your EMG and ETS results will be inaccurate.

3. **Surface Electrode and Probe Placement**
   When using EMG or ETS mode, connect the EMG reference lead wire to an electrode pad and place it on the body site indicated by your physician, making sure the skin is free from grease and dirt. Repeat the above procedure with the other two electrode pads. If using a probe, place the single electrode pad on the thigh area and then insert the probe accordingly.

   When using TENS or NMES mode, connect the CH lead wire to a surface skin electrode and place it on the body site indicated by your physician. Make sure the skin is free from grease and dirt. If using a probe, insert the probe accordingly.

4. **Turn on the device**
   Press and hold the on/off button for 3 seconds to turn on the device

5. **Choose a Function**
   Press **[▲]** and **[▼]** buttons to choose an item and the selected item will be highlighted. Press **[◄]** and **[►]** buttons to skip to the next page. Press **[OK]** to go to the next user interface. Press **[ESC]** to go back to the prior user interface.

6. **Choose a Mode**
   Press **[▲]** and **[▼]** buttons to choose an item and the selected item will be highlighted. Press **[OK]** to go to the next user interface. Press **[ESC]** to go back to the prior user interface.

7. **Choose a Program**
   Press **[▲]** and **[▼]** buttons to choose an item and the selected item will be highlighted. Press **[◄]** and **[►]** buttons to skip to the next page. Press **[OK]** to go to the user next interface. Press **[ESC]** to go back to the prior user interface.

8. **Set parameters**
   Press **[▲]** and **[▼]** button to select an item. Press **[THRS]** buttons to adjust parameters. Press **[OK]** to go to user next user interface. Press **[ESC]** to go back to prior user interface.

9. **Press [OK] to begin session**

   EMG SESSION

   - Press **[THRS]** buttons to adjust threshold. Press **[OK]** to start or pause an EMG session. Press **[ESC]** to finish a session.

   ETS SESSION

   - Press **[THRS]** buttons to adjust threshold. Press **[mA]** buttons to adjust output intensities and start an ETS session. Press **[OK]** to resume or pause an ETS session. Press **[ESC]** to finish a session.

   TENS OR NMES SESSION

   - Press **[mA]** buttons to adjust output intensities and start a TENS or NMES session. Press **[OK]** to resume or pause an ETS session. Press **[ESC]** to finish a session.

QUICK START GUIDE

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Note:
- Place the device on its pedestal or hold the device in hand.
- For EMG and ETS sessions, relax the muscle so that the microvolt reading is as low as possible. Below 6μV is acceptable, while below 4μV is ideal.
- During an ETS session, as soon as the patient reaches the target level (threshold) in the work period, NMES stimulation takes place for several seconds to help contract the muscles. Ideally, patient should contract the muscle along with the NMES stimulation.

10. **Check Results**

EMG SESSION RESULTS
- Press **[THRS]** buttons to save treatment statistics. Press **[ESC]** or **[OK]** to go back to Home Menu.

ETS SESSION RESULTS
- Press **[ESC]** or **[OK]** to go back to Home Menu. Treatment results cannot be saved in ETS mode.

TENS SESSION RESULTS
- Press **[ESC]** or **[OK]** to go back to Home Menu. Treatment results cannot be saved in TENS mode.

NMES SESSION RESULTS
- Press **[ESC]** or **[OK]** to go back to Home Menu.Treatment results cannot be saved in NMES mode.

TURNING OFF THE DEVICE

When finished, press and hold ON/OFF button for 3 seconds to turn off the device. Remove and replace the electrodes onto the clear plastic film, reseal them in the plastic bag and store them in a cool, dry area. If using a probe thoroughly clean the probe and seal it in plastic bag.

PATIENT MODE QUICK START

- In the patient Mode, press the function that is available to go straight to treatment interface.
- Follow steps 1-5 and 9-10.
- In patient mode, you cannot change any settings including, the values of work time, rest time, trials, and A/M threshold settings of EMG.

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HOME MENU

The EMG Pro has a Patient Mode for general use and a Therapist Mode more practical for a clinician. Patient Mode has functions of the device locked and preset programs and parameters of custom programs cannot be selected. Therapist Mode requires a password. Reference pg. 53 for how to switch between Patient and Therapist Mode.

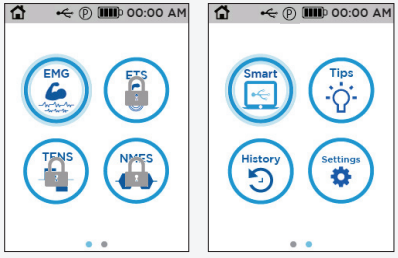
SYMBOL DESCRIPTIONS

	Home User Interface		Battery Capacity
	USB Connection Indicator	00:00 AM	Time in 12H Format
T	Therapist Mode	00:00	Time in 24H Format
P	Patient Mode		

PATIENT MODE HOME MENU

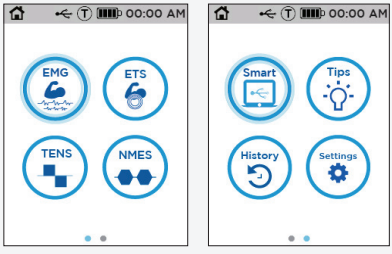
- Press **[▲] [▼] [◄]** and **[►]** to select a function.
- Press **[◄]** and **[►]** to go to next page.
- Press **[OK]** to go to next user interface

Only the programs prescribed by healthcare professionals will be available.



THERAPIST MODE HOME MENU

Default mode. All treatment protocols are available in Therapist mode.



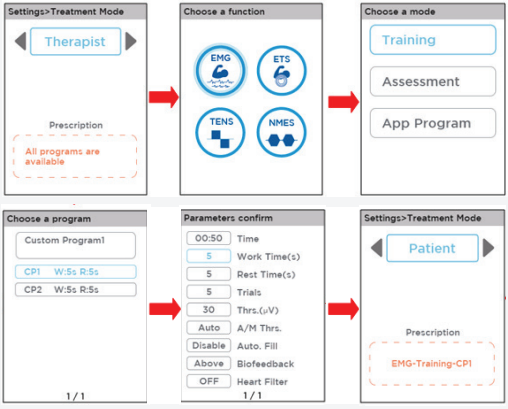
HOME MENU

SETTING UP PATIENT MODE

The default treatment mode is **Therapist Mode.** In **Therapist Mode**, all programs are available and the treatment mode icon [T] appears.

Follow the below steps to set up a program as a prescription for patients. Patient can then bring device home for treatment.

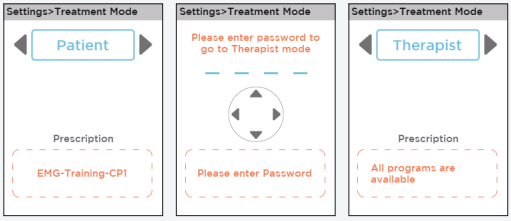
- Press **[◄]** or **[►]** to select **Patient mode**, and the screen will go to the next user interface automatically.
- Choose a function.
- Choose a mode.
- Choose a program.
- Check program's parameters and Press **[OK]** to finish. The prescribed program will display in the dotted area.



When you go back to the prior user interface, the treatment mode icon [P] will appear on the right side of the **Treatment Mode.** When you go back to home menu, the treatment mode icon [P] appears on the navigation bar and all of four treatment functions will be locked 🔒 except for the prescribed function.

SETTING UP THERAPIST MODE

- Press **[◄]** or **[►]** to select **Therapist mode**, and the screen will go to the next user interface automatically.
- Enter the correct password **[▲] [▼] [◄] [►]** to switch to Therapist Mode



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EMG TREATMENT FUNCTIONS

EMG WORK/REST

The W/R phase consists of Work and Rest periods and repeated trial times (repetitions). During the work period, the patient is prompted to contract their muscle. During the rest period, the patient is prompted to relax their muscles. At the end of the work/rest sessions the EMG values display the information on the LCD screen of the device. The device can also be linked to a PC or laptop computer.

WORK/REST ASSESSMENT PROGRAM

- The assessment program should ideally follow these settings:
  Work Time = 5s
  Rest Time = 5s
  Trials = 5
  Threshold = 30µV, AUTO threshold
  Biofeedback = Above
  Heart Filter = Off
  The measurement will be more accurate with the heart filter turned off. When using electrodes near the heart, the proximity of the upper arms, or back, turn the heart filter on to filter out the unwanted heart beat frequencies.
- In the treatment user interface, the initial REST prompt will appear, followed by 5 repetitions (trials) of 5s of work followed by 5s of rest. At the end of the session the user can view the session statistics on screen at the end of the last rest period. During the work period, the patient should contract the muscle as hard and firmly as possible. During rest period the patient should relax as quickly as possible, below 4µV or lower.

RELAXATION TEST

The ideal resting value when conducting work/rest sessions for improving the Pelvic Floor Muscle is 4µV (microvolt). The relaxing value is just as important as the pelvic floor muscle contracting value. If the user is unable to contract their pelvic floor muscle above the muscle strength scale 1, then the resting time for the pelvic floor muscle exercises should be at least 5 seconds or longer.

RAPID CONTRACTIONS:

The patient should perform 5 rapid contractions, note how quickly the bar graph rises and falls. If the contractions and release times are slow, the user will need to improve their fast twitch muscle fibers by conducting quality Pelvic floor muscle exercises at least once per day or more. If after a few weeks there is no marked improvement, consider electrical stimulation using a setting of 35Hz, 220µs Pulse Duration, for 20-25 minutes per day.

CONTRACT AND HOLD: (ENDURANCE TRAINING)

The patient should contract the pelvic floor muscle for as long as possible, 5 seconds is reasonable, 10 seconds would indicate a strong muscle, any longer would be excellent.

EMG TREATMENT FUNCTIONS

EMG PARAMETERS

The range of EMG parameters are as follows:

SETTINGS	VALUE
Time	99 minutes max
Work Time	2-99 seconds
Rest Time	2-99 seconds
Trials	2-99
Thrs.	0-2000 µV
A/M Thrs.	Manual/Auto.
Auto. Fill	Disable/Enable
Biofeedback	Above/Below/Continue/OFF
Heart Filter	ON/OFF

TIME

The total EMG session time is calculated by Work Time, Rest Time and Trials. The formula is:

Time = Trials * (Work Time + Rest Time)

The maximum **Time** is 99 minutes, which means some of the three parameters in the equation will be limited compared to the standard range if the calculated time is more than 99 minutes.

WORK TIME, REST TIME AND TRIAL TIMES

The EMG session consists of work and rest periods and repeated trial times (repetitions). During the work period, the patient is prompted to contract their muscle. During the rest period, the patient is prompted to relax their muscles. At the end of the work/rest sessions the EMG values display the information on the LCD screen of the device. The device can also be linked to an App on PC or laptop computer.

THRESHOLD (THRS.)

Threshold is a value set by a doctor or health care professional, as a reference value for an EMG training session. Patients are required to contract their muscles as much as possible during work time, to above the specified threshold. During rest time, the patient is prompted to relax their muscle as much as possible.

Threshold is an EMG value measured in µV (microvolt). For stronger muscles which perform higher EMG biofeedback muscle contractions, the threshold level will be higher than for weaker or flaccid muscles. In ETS mode (EMG Triggered Stimulation) the patient needs to contract the muscle above the target threshold to trigger the stimulation.

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EMG TREATMENT FUNCTIONS

AUTO AND MANUAL THRESHOLD (A/M THRS.)

There are two ways to adjust EMG threshold - Auto and Manual.

Auto Threshold:

- Automatic threshold is designed to adjust the EMG muscle strength scale (and the point of ETS triggering) to the actual level of the patient's EMG biofeedback muscle contraction.
- **AUTO THRESHOLD DURING AN EMG SESSION:**
  During EMG sessions **Contract** and **Relax** prompts will appear. During each **Work Time** the device measures work average EMG. At the beginning of the next **Work Time**, the threshold is set at 80% of the previous work average EMG. (This functionality is available only for Auto threshold).
- **AUTO THRESHOLD DURING AN ETS SESSION:**
  If the target threshold is reached (EMG will trigger the stimulation) in seconds, the device will increase the target threshold for the next trial. For example, if the work period is 20 seconds, and the patient reaches the threshold very quickly in Sector A (1-5s), the next threshold will be calculated as previous threshold plus 12.5%; if reached in Sector B (6-10s), it will be calculated as the previous threshold plus 5%, if reached in Sector C (11-15s), it will remain the same as the previous threshold. If a patient has difficulties with triggering from EMG to stimulation in Sector D(16-20s), or didn't trigger the stimulation during the work period, the next threshold will be reduced by 5%.

Manual Threshold:

- At any time when the EMG or ETS is displayed, the threshold can be adjusted manually.

NOTE: For better control of ETS score statistics, we recommend using manual threshold for an ETS session.

Auto Fill:

If the Auto Fill function is enabled, the EMG threshold will be filled with the average EMG voltage of the assessment results and the threshold will be locked.

Note: ALWAYS start a new EMG assessment session before you enable this function and turn on the 'Save Data' function on the EMG results screen.

BIOFEEDBACK

The device offers four types of biofeedback, including Above / Below / Continue / OFF.

- **Above**: When the EMG value in real time is beyond the threshold, the device will give a voice prompt to patients.
- **Below**: When the EMG value in real time is below the threshold, the device will give a voice prompt to patients.
- **Continue**: Voice prompt is given to patients at all times during a working session.
- **OFF**: No voice prompt.

EMG TREATMENT FUNCTIONS

HEART FILTER

If the patient measures EMG near the heart, a **Heart Filter** should be used to filter out the heartbeat. The heart filter should be enabled when placing electrodes near the upper abdominals, chest, shoulder, upper arms, upper back, etc. The heart filter can be disabled when placing the electrodes on the lower abdominals, legs, lower arms, lower back, buttock or pelvic area. The filter makes sure the 60 Hz frequencies do not interfere with the muscle biofeedback measured in microvolt. Specific filtering as well as other adjustments and improvements allows the device to measure the EMG down to as low as zero.

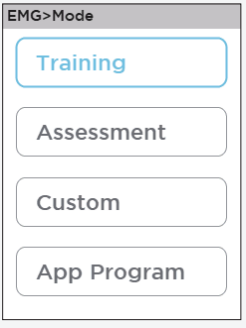
EMG MODE SELECTION

The EMG function offers four modes: **Training, Assessment, Custom and App Program**

- Press **[▲]** and **[▼]** button to choose a mode.
- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.

Note:

- All parameters in training mode are adjustable. These programs are equal to custom programs.
- The assessment program is preset so that the settings cannot be changed.
- App Program, are those programs downloaded from computer. The table list may be empty if no program has been downloaded.



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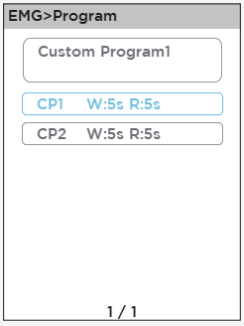
EMG TREATMENT FUNCTIONS

EMG PROGRAM SELECTION

- **CP1** = Custom Program 1
- **W:5s** = Work time of every trial is 5 seconds
- **R:5s** = Rest time of every trial is 5 seconds
- Press **[▲]** and **[▼]** button to choose an item.
- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.

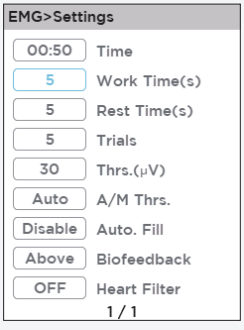


EMG SETTINGS

- Press **[▲]** and **[▼]** button to choose an item.
- Press **[THRS]** to adjust parameters.
- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.

Note:

- Only the parameters of the training program can be adjusted.
- If the patient measures EMG near the heart, turn on the Heart Filter to filter out the heartbeat. For measurement of the pelvic muscle **ALWAYS** turn off Heart Filter
- **ALWAYS** be sure to use the reference electrode otherwise the EMG signal will be incorrect, distorted, or too high.



EMG TREATMENT FUNCTIONS

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EMG TREATMENT SYMBOL DESCRIPTION

	EMG threshold in µV
	Current trial cycle / total number of trial cycles
	Real time EMG voltage in µV
	Threshold Indicator
	Standby Status Indicator
	Work Status Indicator
	Biofeedback Voice Level
	Countdown timer
	Indicates the EMG value is above the threshold and holds for at least one second. Icon will disappear immediately if EMG value is below the threshold. At **Trace user interface**, the contract prompt will disappear from the screen in 1 second.
	Muscle Contact Indicator
	Muscle Relax Indicator
	Pause Indicator
	Muscle Strength Scale. Refer to **Tips> Muscle Strength.** Exist only on graph interface.
	Press **[►]** to go to Trace interface, will only display on Graph interface
	Press **[►]** to go to Graph interface, will only display on Trace interface
	Press **[►]** to go to check program settings

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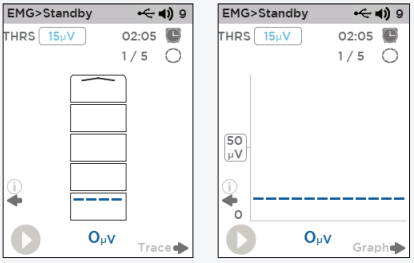
EMG TREATMENT FUNCTIONS

EMG TREATMENT – STANDBY

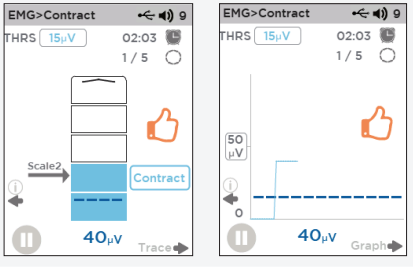
- Press [**THRS]** to adjust threshold.
- Press **[▲]** and **[▼]** to adjust the level of biofeedback prompt voice.
- Press **[OK]** to start and pause a session.
- Press **[ESC]** to go back to the prior user interface.



Note:
To avoid the effects of electromagnetic interference, **NEVER** use the device in the EMG or ETS function within 3-4 meters of a mobile telephone or near any other powerful radio interference producing equipment that causes electrical sparks. In the EMG or ETS function, the device may be susceptible to strong interfering radio type emissions that may lead to temporary increased EMG microvolt readings. The reading will immediately return to the correct value when the interference ceases. (Remember that a relaxed muscle should read below 4µV).

EMG TREATMENT – CONTRACT

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



Note:
A simple and easy to understand EMG Biofeedback bar graph displays the level of muscle activation and assists the user to meet their preset targets. The bar graph scale on the device is divided between 1-5, plus 6 as an extra for those people who can contract above the standard scoring of 5.

EMG TREATMENT FUNCTIONS

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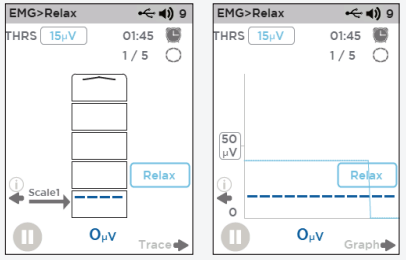
Muscle Strength Grading Scale Measured in EMG Microvolts µV	
Scale 1	Virtually no muscle contraction and very little microvolt readings
Scale 2	Slight muscle contraction with little movement, increase microvolt reading and a short muscle contraction holding time
Scale 3	Moderate muscle contraction with increased movement and microvolt reading and a longer muscle contraction holding time
Scale 4	Firm contraction and improved muscle holding time
Scale 5	Strong contraction with much longer muscle holding time
Scale 6	Robust contraction with greatly improved muscle holding time

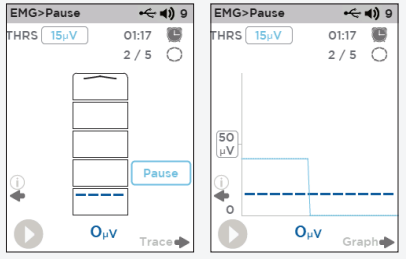
EMG TREATMENT – RELAX

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



EMG TREATMENT – PAUSE

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



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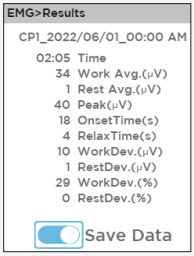
EMG TREATMENT FUNCTIONS

EMG RESULTS

- Press **[THRS]** to save the EMG treatment results.
- Press **[OK]** to go back to the function menu and save the data
- Press **[ESC]** to go back to the function menu but not save the data



Note:
The real time clock ensures that an accurate record of EMG Biofeedback is measured by the hour, day and month, the time should be check before using.

MEANINGS AND CALCULATIONS

RESULT	MEANING	CALCULATION
Time	Treatment session time	N/A
Work Avg	The work average for the session measured in (μV) microvolt. The average readings will vary from one patient to another.	The average value in microvolt of all the work segments excluding the first second of each segment.
Rest Avg	The resting average for the session measured in (μV) microvolt. The average readings will vary from one patient to another.	The average value of the rest segments excluding the first second.
W/R Peak	The average peak value measured in (μV) The value will vary from one patient to another.	It is the peak value during the whole cycle of all the trials.

EMG TREATMENT FUNCTIONS

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RESULT	MEANING	CALCULATION
OnSet Time	The average onset of muscle contraction measured in seconds; readings below 1 second are considered normal for most muscles.	The average time taken after each respective "work" prompt to reach 75% of the average value of the previous work period. If the onset of trial(s) is longer than 2 seconds, it will be rejected. The display will indicate the average of only those trials which were 2 seconds or less.
Relax Time	The average relaxed muscle measured in seconds; readings below 1 second are considered normal for most muscles.	The average time taken, after the REST prompt to reach 37.5% of the average EMG from the previous work period. If any release of the trials is longer than 2 seconds it will be rejected. The display will indicate the average of only those trials which were 2 seconds or less.
Work Dev	The average muscle deviation when contracting the muscle. Deviation percentages vary according to muscle type.	The average deviation of one second samples from the average value in the second in which they occur (excluding the first second of each work segment).
Rest Dev	The average muscle deviation; when the muscle is relaxing.	The average deviation of one second samples from the average value in the second in which they occur (excluding the first second of each rest segment).

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ETS TREATMENT FUNCTIONS

ETS PARAMETERS

ETS combines EMG and NMES. The EMG parameters are the same as EMG function.

SETTINGS	VALUE
Time	99 minutes max
Work Time	2-99 seconds
Rest Time	2-99 seconds
Trials	2-99
Thrs.	0-2000 μV
A/M Thrs.	Manual/Auto.
Auto. Fill	Disable/Enable
Biofeedback	Above/Below/Continue/OFF
Heart Filter	ON/OFF

The NMES parameters of ETS follow the NMES function. Refer to NMES Functions, pg. 42

SETTINGS	VALUE
Phase	Current Phase/Total Phase
Time	1-99 seconds
Frequency	2-120 pps
Duration	50-450 μs
Ramp Up	0.1-9.9 seconds
Ramp Down	0.1-9.9 seconds

Note:
Work time, rest time and stimulation time must be taken into consideration in order to adjust the basic ETS treatment parameters.

ETS TREATMENT FUNCTIONS

HOW TO SET EMG THRESHOLD FOR ETS SESSION

ETS treatment is useful for muscle improvement. ETS begins with EMG work/rest training. The patient can adjust the desired target (EMG Threshold) level by pressing the **THRS** [≽] or **THRS** [≼] buttons. If the patient reaches the target during the work period of EMG, the EMG triggers the stimulation, which helps the patient keep their muscle contracted.

ETS enables the patient to stimulate weak muscles by setting a low level threshold target and adjusting the work and rest periods to meet individual patient requirements.

To perform efficient ETS training, set the EMG threshold as follows:

- In settings, set Threshold to "Manual."
- Press **[OK]** – Stim screen will populate, and user can edit parameters as necessary.
- Press **[OK]** to go to treatment screen.
- Ask patient to activate muscle to whatever extent and range of motion possible. (ex. patient may only be able to get to half way through elbow range of motion using their own volitional contraction.)
- Press **[OK]** – Biofeedback screen will populate, and user can manually set biofeedback using the **[THRS]** buttons
- Set the intensity using the **[mA]** buttons until the desired level of contraction and/or range of motion is achieved.
- Throughout the session continue to periodically adjust the EMG threshold (µV) and intensity (mA) based on the patient's volitional recruitment capability.
- When EMG threshold and intensity are both adjusted appropriately, the patient will be challenged to work volitionally to recruit the muscle to reach the EMG Threshold. Once the threshold is reached, the electrical stimulation will be activated to supplement the patient's volitional muscle contraction and recruit a level of muscle activation that the patient could not achieve on their own.

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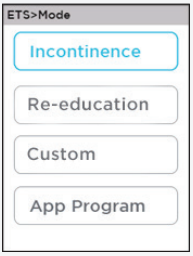
ETS TREATMENT FUNCTIONS

ETS MODE SELECTION

Four modes: Incontinence, Re-education, Custom, and App Program.

- Press **[▲]** and **[▼]** button to choose a mode.
- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.



Note:

- All of parameters belonging to incontinence and re-education mode are adjustable. These programs are equal to custom programs.
- App Program are those programs downloaded from a computer. The table list may be empty if no program has been downloaded.

ETS PROGRAM SELECTION

CP1 = Custom Program 1

W:5s = Work Time of every trial is 5 seconds.

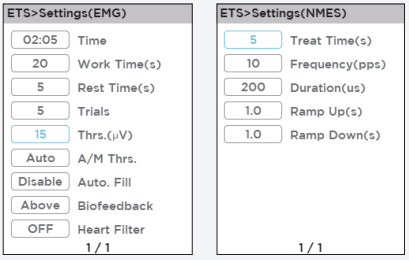
R:5s = Rest Time of every trial is 5 seconds.

- Press **[▲]** and **[▼]** button to choose a program.
- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.

ETS TREATMENT FUNCTIONS

ETS SETTINGS

- Press **[▲]** and **[▼]** button to choose a setting.
- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.
- Press **[THRS]** to adjust parameters.
- Only the parameters of a custom program can be adjusted.



ETS TREATMENT SYMBOL DESCRIPTION

THRS 15μV	EMG threshold in μV
1 / 5	Current trial cycle / total number of trial cycles
0μV	Real time EMG voltage in μV
--μV	During NMES output period, EMG function is out of work.
	Threshold Indicator
	Standby Status Indicator
	Work Status Indicator
9	Biofeedback Voice Level
02:05	Countdown Timer. The sum of both EMG and NMES session time.
	Indicates the EMG value is above the threshold and holds for at least one second. Icon will disappear immediately if EMG value is below the threshold. At **Trace user interface**, the contract prompt will disappear from the screen in 1 second.
Contract	Muscle Contact Indicator

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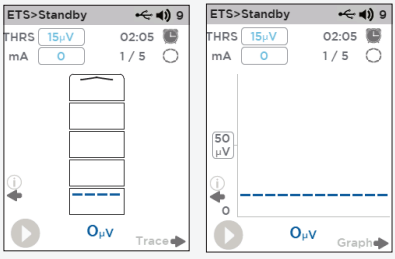
ETS TREATMENT FUNCTIONS

Work	NMES Output Indicator When the real-time EMG value is above the threshold, this appears and holds one second at most. Meanwhile, the NMES output is activated immediately and continue until the NMES countdown timer is over.
Relax	Muscle Relax Indicator
Pause	Pause Indicator
Scale2	Muscle strength scale. Refer to **Tips> Muscle Strength.** Exist only on graph interface.
Graph	Press **[►]** to go to Trace interface, will only display on Graph interface
Trace	Press **[►]** to go to Graph interface, will only display on Trace interface
	Press **[►]** to go to check program settings

ETS TREATMENT – STANDBY

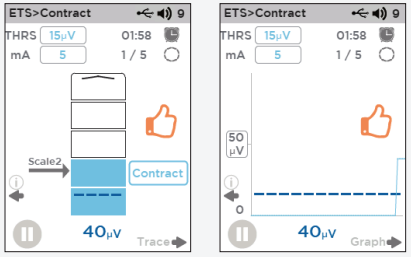
- Press **THRS** buttons to adjust threshold.
- Press **mA** buttons to adjust output intensity.
- When the output intensity is greater than zero, the ETS session begins. When the NMES output intensity decreases to zero, the ETS session stops.
- Press **[▲]** and **[▼]** to adjust biofeedback prompt voice.
- Press **[ESC]** to go back to the prior user interface.



ETS TREATMENT FUNCTIONS

ETS TREATMENT – CONTRACT

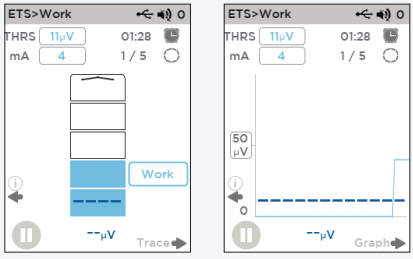
- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



Note: To avoid the effects of electromagnetic interference, **NEVER** use the device in the EMG or ETS function within 3-4 meters of a mobile telephone or near any other powerful radio interference producing equipment that causes electrical sparks. In the EMG or ETS function, the device may be susceptible to strong interfering radio type emissions that may lead to temporary increased EMG microvolt readings. The reading will immediately return to the correct value when the interference ceases. (Remember that a relaxed muscle should read below 4uV).

ETS TREATMENT – WORK

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



Example for Work: For patients with weak muscles, set **Threshold** value at 5µV, **Work Time** at 5s, **Rest Time** at 10s and NMES time at 5s, when the patient's EMG reaches the threshold in the EMG working period, the EMG triggers the stimulation, then follows a constant stimulation time of 5 seconds.

Work time, rest time and the NMES time must be taken into consideration when adjusting the basic ETS treatment parameters.

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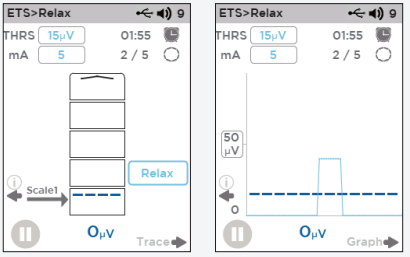
ETS TREATMENT FUNCTIONS

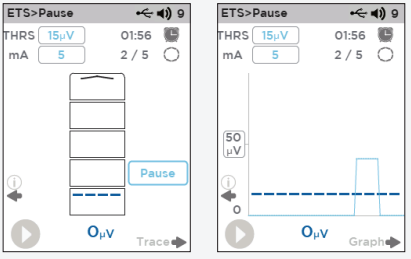
ETS TREATMENT – RELAX

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



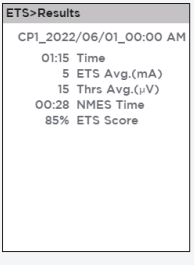
ETS TREATMENT – PAUSE

- Press **[ESC]** to finish a session.
- Press **[OK]** to continue a session.



ETS RESULTS

- Press **[ESC]** or **[OK]** to go back to Home Menu.
- **Time**: Total time of treatment session
- **ETS Avg**: Average stimulation level measured in mA; the value indicates the average mA level used by the patient during stimulation treatment.
- **THRS Avg:** Average Target/Threshold level measured in µV. The value indicates the average target reached by the patient during the ETS treatment. (Auto or Manual)
- **NMES Time:** Total electrical stimulation time during ETS.
- **ETS Score:** The percentage of the patient's score during the ETS Treatment. If the patient reached the target quickly, the score will be higher.
- **Example:** 10% indicates the patients average in reaching the target was delayed. 90% indicates the patients average of reaching the target is almost immediate and the patients has good muscle condition.



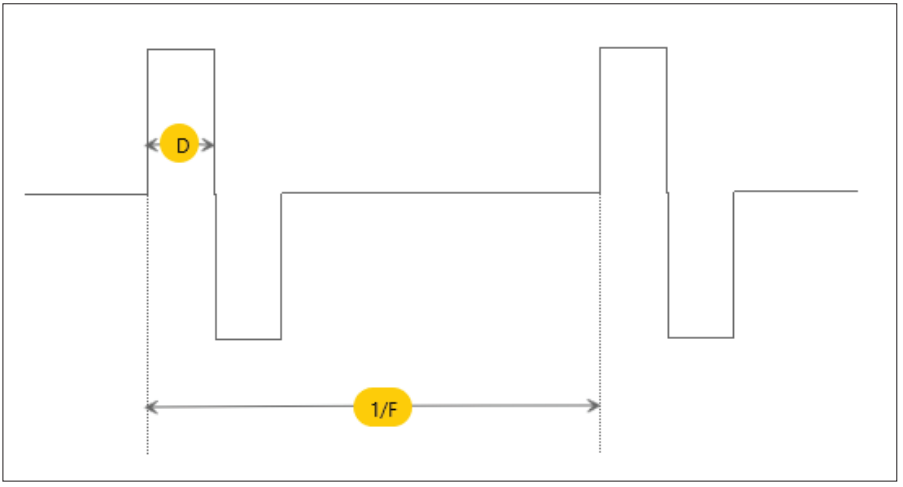
Note: Treatments cannot be saved in ETS mode.

TENS TREATMENT FUNCTIONS

TENS PARAMETERS

Settings	Value
Time	1-99 minutes
Frequency	2-120 pps
Duration	50-450 μs

TENS WAVEFORM



F: Pulse Frequency
D: Phase Duration

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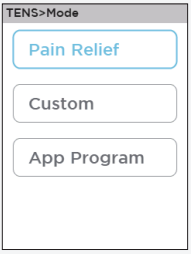
TENS TREATMENT FUNCTIONS

TENS MODE SELECTION

TENS offers three modes: Pain Relief, Custom and App program.

- Press **[▲]** and **[▼]** button to choose a mode.
- Press **[OK]** to go to the user next interface.
- Press **[ESC]** to go back to the prior user interface.

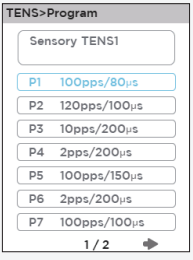


Note: All parameters of Custom Mode are adjustable. App Program are those programs downloaded from a computer. The table list may be empty if no program has been downloaded.

TENS PROGRAM SELECTION

P = Preset Program.
100pps/80us = Frequency and Duration of the pulse

- Press **[▲]** and **[▼]** button to choose an item and the selected item will be highlighted.
- Press **[OK]** to go to next user interface.
- Press **[ESC]** to go to prior user interface.
- Press **[◄]** and **[►]** to skip to next page.



TENS SETTINGS

- Press **[OK]** to go to user next interface.
- Press **[ESC]** to go back to prior user interface.
- Press **[THRS]** to adjust parameters.

Note: Only the parameters of custom program can be adjusted.

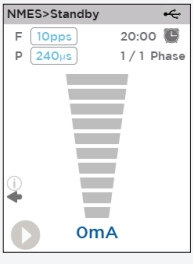
TENS TREATMENT FUNCTIONS

TENS TREATMENT SYMBOL DESCRIPTION

F 100pps	Waveform Frequency in pps
P 80µs	Phase Duration in µs
0mA	Output Intensity
	Standby Status Indicator
	Work Status Indicator
30:00	Countdown Timer
Work	Stimulation Work Period Indicator
Pause	Pause Indicator
	Press **[▶]** to go to check program settings

TENS TREATMENT – STANDBY

- Press **[ESC]** to go back to prior user interface.
- Press **[mA]** buttons to adjust TENS output intensity,
- When the NMES output intensity is greater than zero, the TENS session begins. When the NMES output intensity decreases to zero, the TENS session stops.



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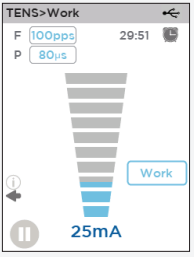
TENS TREATMENT FUNCTIONS

TENS TREATMENT – WORK

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



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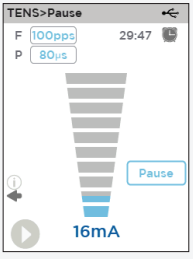
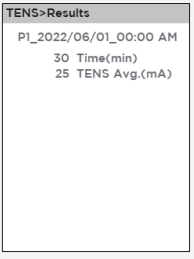
TENS TREATMENT – PAUSE

- Press **[ESC]** to finish a session.
- Press **[OK]** to continue a session.



TENS RESULTS

- Press **[ESC]** or **[OK]** to go back to Home Menu.
- **Time:** Total time of treatment session
- **TENS Avg:** Average stimulation level measured in mA; the value indicates the average mA level used by the patient during TENS treatment.



Note: Treatment results cannot be saved in TENS mode.

NMES TREATMENT FUNCTIONS

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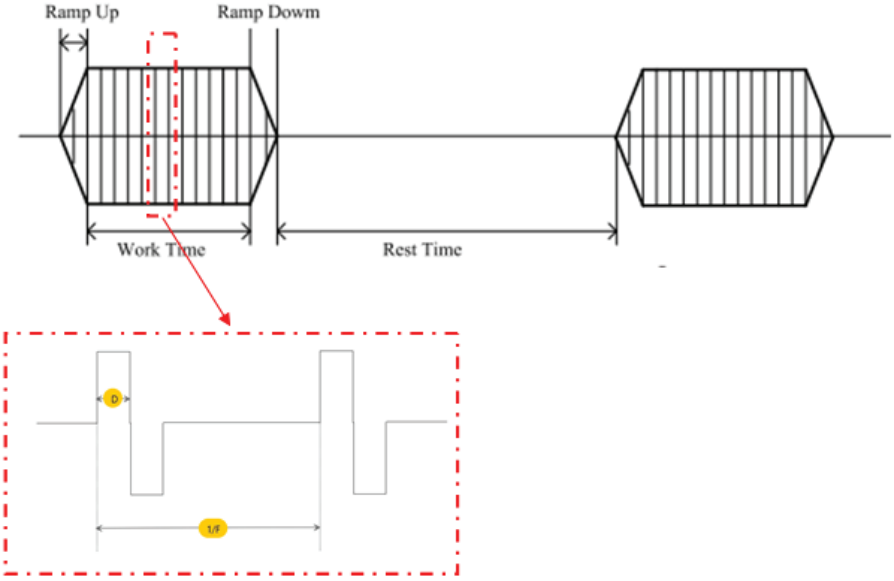
NMES PARAMETERS

Settings	Value
Phase	Current Phase/Total Phase
Time	1-99 minutes
Work Time	2-99 seconds
Rest Time	2-99 seconds
Work Fre.	2-120 pps
Rest Fre.	0-4 pps
Duration	50-450 μs
Ramp Up	0.1-9.9 seconds
Ramp Down	0.1-9.9 seconds

NMES WAVEFORM



PHASE

- There may be up to five phases in a program.
- 1/5 represents a total of 5 phases in a program, with the screen displaying the parameters of phase 1.
- 1/1 represents only one phase in this program.

TIME

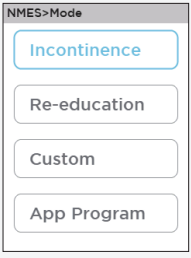
- The time parameter represents the treatment time of the current phase.

NMES TREATMENT FUNCTIONS

NMES MODE SELECTION

NMES offers four modes: Incontinence, Re-education, Custom and App program.

- Press **[▲]** and **[▼]** button to choose a mode.
- Press **[OK]** to go to the user next interface.
- Press **[ESC]** to go back to the prior user interface.

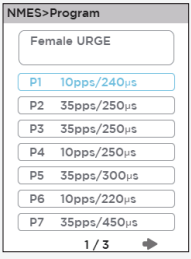


Note: All parameters of Custom Mode are adjustable. App Program are those programs downloaded from a computer. The table list may be empty if no program has been downloaded.

NMES PROGRAM SELECTION

P = Preset Program.
10pps/240μs = Frequency / Duration of the pulse

- Press **[OK]** to go to next user interface.
- Press **[ESC]** to go to prior user interface.
- Press **[◄]** and **[►]** to skip to next page.



NMES SETTINGS

- Press **[OK]** to go to the next user interface.
- Press **[ESC]** to go back to the prior user interface.
- Press **[THRS]** to adjust parameters.

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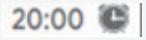
NMES TREATMENT FUNCTIONS

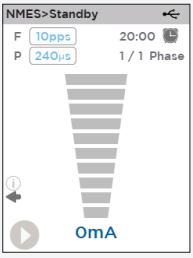
NMES TREATMENT SYMBOL DESCRIPTION

	Waveform Frequency
	Phase Duration
	Output Intensity
	Standby Status Indicator
	Work Status Indicator
	Countdown TImer
	Stimulation Work Period Indicator
	Stimulation Rest Period Indicator
	Pause Indicator
	Press **[▶]** to go to check program settings
	Current Work Phase/Total Work Phases.

NMES TREATMENT FUNCTIONS

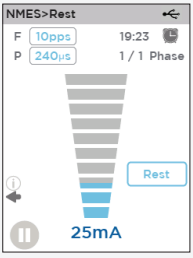
NMES TREATMENT – STANDBY

- Press **[ESC]** to go back to prior user interface.
- Press **mA[+]**, and **[mA-]** to adjust TENS output intensity.
- When the NMES output intensity is greater than zero, the NMES session begins.
- When the NMES output intensity decrease to zero, the NMES session stops.



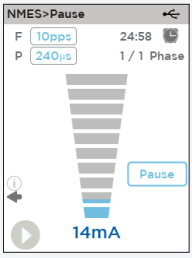
NMES TREATMENT – WORK / REST

- Press **[ESC]** to finish a session.
- Press **[OK]** to pause a session.



NMES TREATMENT – PAUSE

- Press **[ESC]** to finish a session.
- Press **[OK]** to continue a session.



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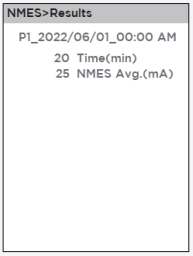
NMES TREATMENT FUNCTIONS

NMES RESULTS

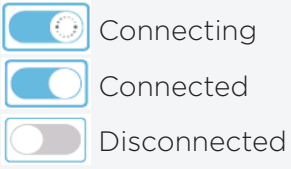
- Press **[ESC]** or **[OK]** to go back to Home Menu.
- Treatment results cannot be saved in NMES mode.
- **Time:** Total time of treatment session
- **NMES Avg:** Average stimulation level measured in mA; the value indicates the average mA level used by the patient during NMES treatment.



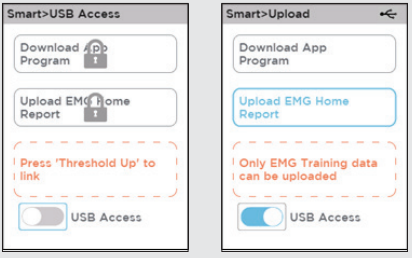
SMART OPERATIONS

USB COMMUNICATION

- Select the Smart icon and press **[OK]**, the device will communicate with Computer App automatically. There are three connection indicators:



- If communication fails, prompt area will display 'Press **THRS** [≽] to link again.
- After connection is set up, press **THRS** [≽] to disconnect.
- Press **[▲]** and **[▼]** button to choose a function.
- Press **[OK]** to go to next user interface.
- Press **[ESC]** to go to Home Menu. The connection between computer and device will still be available.

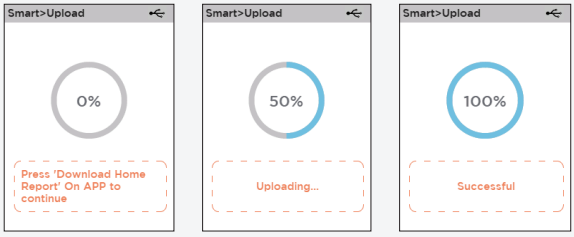


Note:

- Before connecting with Computer App, the computer and device needs to be connected via USB cable and the COM port needs to be configured.
- After the connection is set up, the USB icon will display on navigation bar.
- If communication is successful, the lock icon will disappear from the screen.
- After communication has been set up, then the upload and download functions are available.
- This function is an optional accessory and purchased separately.

SMART OPERATIONS

UPLOAD EMG HOME REPORT



The device can store user's EMG training data and upload it to the Computer App. This allows a healthcare professional to make a prescription for at home use.

This device cannot distinguish training data between different patients. Only when the device is connected via the computer software, can the recorded data in the computer distinguish between patients. Therefore, a healthcare professional needs to choose the correct patient on the Computer App first when transferring the data of a patient to the Computer App.

UPDATING PATIENT TRAINING DATA

- Press **Upload EMG Home Report** icon to go to upload interface.
- Press **Download EMG Home Report** on PC APP to confirm manipulation.
- Press **[OK]** again to update all EMG-Training data to PC.
- After the data transformation is complete, press **[ESC]** or **[OK]** to return to the previous interface.

After the transformation has finished, the healthcare professional can generate a new EMG training report for their patients.

DOWNLOAD APP PROGRAM

This function allows healthcare professionals to bring treatment protocols to their patients.

To download a new program from PC, follow these steps:

- Press **Download App Program** icon to go to download interface.
- Prescribe a new program on PC APP and finish all downloads.
- Press **[OK]** again on the device to download program from PC.
- After the data transformation is complete, press **[ESC]** or **[OK]**.

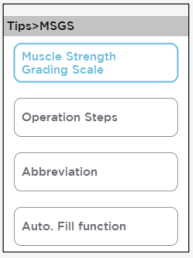
The downloaded programs will be assigned to App Program list of each function by the name of ACPx.

Richmar

TIPS

The Tips interface provides useful information to patients, including the definition of **Muscle Strength Grading Scale**, **Operation Steps**, explanation of **Abbreviations** and how to use **Auto. Fill function**.

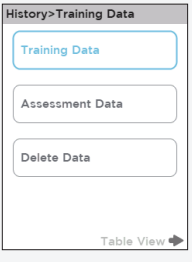
- Press **[▲]** and **[▼]** button to choose an item.
- Press **[OK]** to go to user next interface, then press **[◄]** and **[►]** button to shift page.
- Press **[ESC]** to go to prior user interface.



HISTORY

In the History function, you can check EMG training data, EMG assessment data or Delete data.

- Press **[▲]** and **[▼]** button to choose an item.
- Press **[OK]** to go to user next interface.
- Press **[►]** button to shift page between table view and line view.
- Press **[ESC]** to go back to prior user interface



Note:

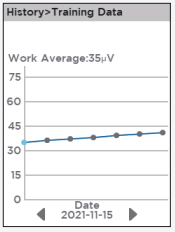
- The statistics will be saved on a daily or periodic basis. It is important to make sure the date is correct.
- Training can only be recorded and stored automatically in patient mode.
- The patient should follow the clinician's instructions on how to use the program and how to handle statistics recorded for training or assessment.
- The device should be connected to the computer to upload the data after long term training and periodic assessment is complete.
- The device stores and records one patients training and assessment data at a time for up to 31 recordings.
- This data can be downloaded on the Compass Health Brands Corp. software.
- To record new patients data, you must first clear the saved data.

HISTORY

LINE VIEW

A single page will display seven sets of training data.

- Press **[◄]** and **[►]** button to choose a different set of data.
- Press **[OK]** to check detailed information.



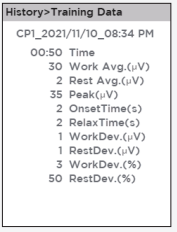
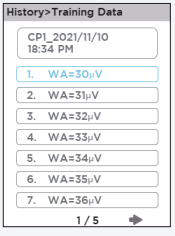
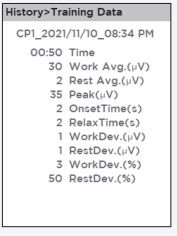


TABLE VIEW

- A single page can display seven sets of training data.
- The maximum numbers of data records are 31 groups in table view.
- Press **[▲]** and **[▼]** button to choose a different set of data.
- Press **[◄]** and **[►]**]button to shift page.
- Press **[OK]** to check detailed information.





ASSESSMENT DATA

The assessment data can be loaded as EMG threshold when the Auto Fill is enabled. Only one set of assessment data can be retained, the previous data will be replaced by new data.

Richmar

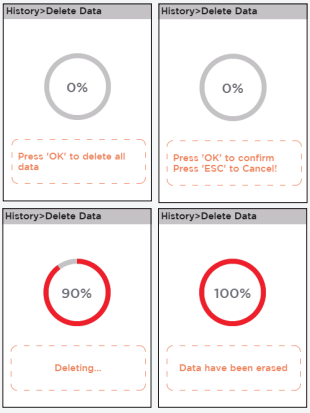
HISTORY

DELETING ALL TREATMENT DATA

To delete all treatment data, do the following:

- Press **[OK]** to delete.
- Then, press **[OK]** again to confirm action.
- Press **[ESC]** or **[OK]** to return after the processing has finished.

Once you delete the data, it cannot be restored.

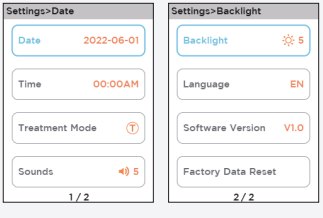


SYSTEM SETTINGS

Settings include: **Date, Time, Treatment Mode, Sounds, Backlight, Language, Software Version, Factory Data Reset.**

Press **[▲]** and **[▼]** button to select an item.

- Press **[◄]** and **[►]** button to shift pages.
- Press **[OK]** to go to next user interface.



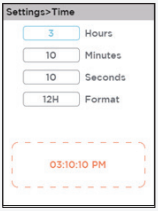
SYSTEM SETTINGS

DATE SETTINGS

- Press **[▲]** and **[▼]** button to select an item.
- Press **THRS** [≪], **THRS** [≫] to adjust the value. Parameters will save automatically after adjustment.
- Press **[ESC]** to return to the previous interface.

TIME SETTINGS

- Press **[▲]** and **[▼]** button to select an item.
- Press **THRS** [≪], **THRS** [≫] to adjust the value. Parameters will save automatically after adjustment.
- Press **[ESC]** to return to the previous interface.



Note: The real time clock ensures that an accurate record of EMG Biofeedback is measured by the hour, day and month.

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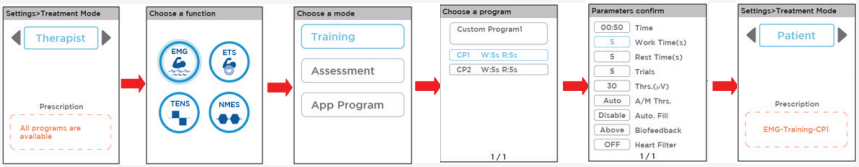
SYSTEM SETTINGS

TREATMENT MODE

The default treatment mode is **Therapist Mode.** In **Therapist mode**, all programs are available. The treatment mode icon [T] appears.

THERAPIST MODE TO PATIENT MODE

Follow the below steps to set up a program as a prescription for patients. The patient can then bring the device home for treatment.

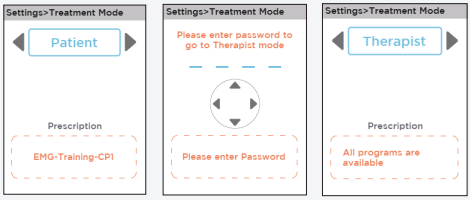


- Press **[◄]** or **[►]** to go to **Patient mode** and the screen will go to next user interface automatically.
- Choose a function.
- Choose a mode.
- Choose a program.
- Lastly, check program's parameters and Press **[OK]** to finish the settings. The prescribed program will display in the dotted area.

When you go back to prior user interface, the treatment mode icon [P] appears on the right side of the **Treatment Mode.** When you go back to home menu, the treatment mode icon [P] appears on the navigation bar and all treatment functions have been locked 🔒 except for the prescribed function.

SYSTEM SETTINGS

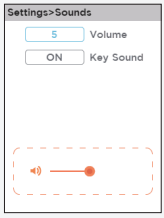
PATIENT MODE TO THERAPIST MODE



- Press **[◄]** or **[►]** go to **Therapist mode** and the screen will go to next user interface automatically.
- Enter the correct passwords **[▲] [▼] [◄] [►]** to complete the settings and switch back to therapist mode.

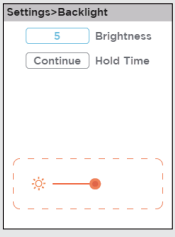
SOUND SETTINGS

- Press **[▲]** and **[▼]** button to select an item.
- Press **THRS** [≽], **THRS** [≼] to adjust the value. Parameters will save automatically after adjustment.
- Press **[ESC]** to return to the previous interface.
- The maximum volume level is 10.



BACKLIGHT SETTINGS

- Press **[▲]** and **[▼]** button to select an item.
- Press **THRS** [≽], **THRS** [≼] to adjust the value. Parameters will save automatically after adjustment.
- Press **[ESC]** to return to the previous interface.
- The maximum brightness level is 10.



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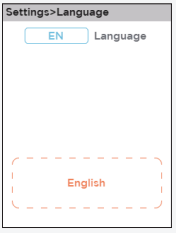
SYSTEM SETTINGS

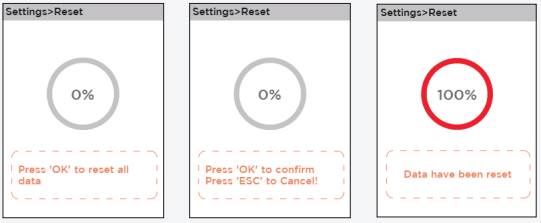
LANGUAGE SETTINGS

- Press **[▲]** and **[▼]** button to select an item.
- Press **THRS** [≽], **THRS** [≼] to adjust the value. Parameters will save automatically after adjustment.
- Press **[ESC]** to return to the previous interface.



FACTORY DATA RESET

DELETED DATA CANNOT BE RESTORED. If you carry out this function, all data will be deleted at once. To delete data:



- When in settings, select **Factory Data Reset.**
- Press **[OK]** to reset and delete data. This task can be canceled time by pressing **[ESC]**
- Press **[OK]** to delete all data. Deleting data will take a few seconds

SPECIFICATIONS

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MAIN DEVICE

Service Life	3 Years
Dimensions	5.47” x 2.68” x 1.26” / 139mm x 68mm x 32mm
Weight	5.57oz (without batteries) / 158g

BATTERY

- **Type: DC 6V, 4×1.5V AA**
- Service Life for New Super Heavy Duty Batteries: Approximately 30 days when used for 25 minutes a day in, program 1, at 45 level intensity.
- Energy Saving: The device will shut off after three minutes of inactivity.
- Low Voltage Alarm: Low battery indication at 4V ±0.2 volts, automatic shut off when voltage drops below the low indication. Replace the batteries immediately. When changing batteries it is recommended to do so within ten minutes so that internal clock is not lost. If the internal clock is lost, the setting of the internal clock can be done from the system setting menu.

OPERATING CONDITIONS

Temperature	41°F – 104°F (5°C – 40°C)
Relative Humidity	30% – 75%
Atmosphere Pressure	700 hPa – 1060 hPa

STORAGE CONDITIONS

Temperature	32°F – 104°F (0°C – 40°C)
Relative Humidity	10% – 90%
Atmosphere Pressure	700 hPa – 1060 hPa

EMG

Single Channel	
EMG Range:	0 - 2000µV RMS (continuous)
Sensitivity:	0.1µV RMS
Accuracy:	10% of µV reading or 2µV at 180Hz, max value
Number of Trials:	1-99
Notch Filter:	60Hz -33 dbs (0.1% accuracy)
Common Mode Rejection Ratio:	130dbs Minimum @ 60Hz
Work/Rest Period:	2-99 seconds

Selectable Band pass filter -3db Bandwidth

a. Wide: 20Hz to 500Hz

b. Narrow: 100 Hz to 500 Hz

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SPECIFICATIONS

STIM-TENS

Single Channel	
Amplitude:	0-100 mA at 500 Ohm load (Actual mA will tend to be less than indicated due to Electrode impedance.)
Type:	Constant Current
Waveform:	Symmetrical Biphasic
Pulse Width	50-450 µs
Pulse Rate	2-100Hz
Time	1-99 minutes
Preset and customizable treatment programs	
Automatic output shut off with detection of open electrode over 1mA.	

STIM-NMES

Single Channel	
Amplitude:	0-100 mA at 500 Ohm load --actual mA will tend to be less than indicated due to Electrode impedance
Type:	Constant Current
Waveform:	Symmetrical Biphasic
Ramp Up:	0.1-9.9 seconds
Pulse Width:	50-450 µs
Pulse Rate:	2-120Hz
Work/Rest Period:	2-99 seconds
Time	1-99 minutes
Preset and customizable treatment programs	
Automatic output shut off with detection of open electrode above 1mA	

SPECIFICATIONS

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ETS

Program Time:	1-99 minutes
Threshold(μV):	0 - 2000μV
Filter:	Wide/Narrow
Biofeedback:	Above/Below/Continue/OFF
Work/Rest Time(s):	2-99 seconds
Number of Trials:	2-99
Threshold Setting:	Auto/Manual
Time(s):	2-99 seconds
Frequency(Hz):	2-120Hz
Pulse width(μs):	50-450 μs
Ramp Times(s):	0.1-9.9 seconds

ELECTROMAGNETIC COMPATIBILITY (EMC)

- This device should not be used adjacent to or stacked with other equipment and if adjacent or stacked use is necessary, this device should be observed to verify normal operation in the configuration in which it will be used.
- Use of accessories other than those specified or provided by the manufacturer of this device could result in increased electromagnetic emissions or decreased electromagnetic immunity of this equipment and result in improper operation.
- Portable RF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to any part of the device, including cables specified by the manufacturer. Otherwise, degradation of the performance of this equipment could result.
- When the operating environment is relatively dry, strong electromagnetic interference usually occurs. At this time, the device may be affected as follows:
  - the device stops output;
  - the device turns off;
  - the device restarts;

- The above phenomenon does not affect the basic safety and essential performance of the device, and the user can use it according to the instruction. If you want to avoid the above phenomenon, please use it according to the environment specified in the manual.
- The EMG Pro complies with the requirements of IEC 60601-1-2:2014 (EMC Collateral Standard) including the E-field susceptibility requirements at a level of 10 volts per meter, at frequencies from 80 MHz to 2.7 GHz. However, even at this level of device immunity, certain transmitting devices(cellular phones, two-way radios, cordless phones, paging transmitters, RFID devices, etc.) emit radio frequencies that could interrupt EMG Pro operation if operated in a range too close to the EMG Pro. Practitioners should be aware of possible radio frequency interference if portable devices are operated in close proximity to the EMG Pro.

Table 1

DECLARATION - ELECTROMAGNETIC EMISSION		
The device is intended for use in the electromagnetic environment specified below. The customer or the user of device should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The device uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The device is suitable for domestic establishment and in establishment directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

EMC TABLES

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Table 2

DECLARATION - ELECTROMAGNETIC IMMUNITY			
The device is intended for use in the electromagnetic environment specified below. The customer or the user of device 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	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	±8 kV contact ±2 kV, ±4 kV, ±8 kV, ±15 kV air	Floors should be wood, concrete or ceramic tie. 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 ± 1 kV for input/ output lines	Not applicable	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 0.5kV, ± 1 kV line(s) to lines ± 0.5kV, ± 1 kV, ± 2 kV line(s) to earth	Not applicable	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	0 % U_T; 0.5 cycle At 0°, 45°, 90°, 135°, 180°, 225°, 270°and 315° 0 % U_T; 1 cycle and 70 % U_T; 25/30 cycles Single phase: at 0° 0 % U_T; 250/300 cycles	Not applicable	Mains power quality should be that of a typical commercial or hospital environment. If the user of the device requires continued operation during power mains interruptions, it is recommended that the device be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	30 A/m	30 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: U_T is the a.c. mains voltage prior to application of the test level.			

Table 3

DECLARATION - ELECTROMAGNETIC IMMUNITY			
The device is intended for use in the electromagnetic environment specified below. The customer or the user of device 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	3V 0.15 MHz to 80MHz 6 V in ISM and amateur radio bands between 0.15 MHz and 80 MHz	Not applicable	Portable and mobile RF communications equipment should be used no closer to any part of device, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1.2\sqrt{P}$ 150 KHz to 80 MHz $d = 1.2\sqrt{P}$ 80 MHz to 800 MHz $d = 2.3\sqrt{P}$ 80 MHz to 2.7 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. Interference may occur in the vicinity of equipment marked with the following symbol: 
Radiated RF IEC 61000-4-3	10V/m 80 MHz to 2.7 GHz	10V/m	

EMC TABLES

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 RF 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 device is used exceeds the applicable RF compliance level above, device should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating device.

b Over the frequency range 0.15 MHz to 80 MHz, field strengths should be less than 3 V/m.

Table 4

RECOMMENDED SEPARATION DISTANCES BETWEEN PORTABLE AND MOBILE RF COMMUNICATIONS EQUIPMENT AND DEVICE

The device is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of device can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and device, 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		
	0.15 MHz to 80 MHz $d = 1.2\sqrt{P}$	80 MHz to 800 MHz $d = 1.2\sqrt{P}$	80 MHz to 2.7 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 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.

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CLEANING AND MAINTENANCE

WARNING

Only medically approved accessories should be used.

MAIN DEVICE

- Turn the power off and disconnect lead wires from the device
- After each use, clean the device with a soft, slightly moistened cloth and wipe gently.
- Once a week, wipe the surface with a damp cloth or antiseptic wipe.
- **DO NOT** use cleaning sprays or alcohol-based cleaning solutions.
- **DO NOT** use chemicals (like thinner or benzene.)
- **DO NOT** let water get into the internal area.

ELECTRODE PADS

- Turn the power off and remove the lead wire from the pads.
- Check that the short connectors are well connected to the electrodes.
- Return electrodes onto plastic film after use. If electrodes drop onto the floor, debris will adhere to the conductive gel making the electrodes ineffective.
- Wash the pads when the adhesive surface becomes dirty and/or the pads are difficult to attach.
- Wash the pads softly with your fingertips under slow running cold water for several seconds.
- **DO NOT** use a sponge/cloth/sharp object like a nail on adhesive side.
- **DO NOT** use detergents, chemicals or soap.
- Dry the pads and let the adhesive surface air dry completely.
- **DO NOT** wipe with a tissue paper or cloth.
- Electrode life can be considerably reduced by:
  - The type and condition of the skin
  - Deep seated moisturizers or makeup
  - Storing electrodes in hot conditions

LEAD WIRE

- The lead wires should be handled carefully and never stretched, as this can cause the stimulation to function below normal standards or not at all.
- Examine lead wires before each treatment for loose connections or damage.
- Avoid stretching and twisting the lead wires.
- Store the lead wires carefully after each use.

CLEANING AND MAINTENANCE

TIPS

- Ensure NO residual skin lotions or conductive gels are left on the skin prior to using the electrodes as this can result in burns due to inadequate adhesion.
- Remove hair on skin using scissors; **DO NOT** use razor to remove hair.
- If you find the electrodes will not stick due to oily skin, cleanse the skin with soap and water, then rinse and dry the area around the electrode site. If this does not work, try cleansing the skin with an alcohol swab.
- The electrodes conductive material is water-based. If it becomes saturated (e.g. from perspiration), it will lose its adhesive qualities. After use leave the electrodes face up overnight to dry out (replace on plastic film in the morning). At some point the electrodes will become dry. Moisten the adhesive surface with a few drops of water, and apply onto the plastic film overnight. This procedure will increase the electrode life by few a days.
- Place the tacky surface to the prescribed skin area by pressing the electrode firmly against the skin.
- **DO NOT** turn on the device when the electrodes are not positioned on the body.
- **NEVER** remove the electrode pads from the skin while the device is still turned on.

PROBE ELECTRODES

ALWAYS clean the probe before and after each use.

Vaginal/Rectal Probes:

- Check that the connectors are not separated from the probe.
- We advise you to use Compass Health Brand Corp supplied probes only.
- **Cleaning:** Remember! The vaginal and rectal probe is for use with one patient only!
- Carefully clean the probe after each use.
- Wash the probe gently in mild soapy water, rinse and make sure the probe is completely dry before returning to storage in the plastic bag.
- Carefully read the probe instructions for use (pages 14-15).

The instructions below should be used in conjunction with the cleaning agent manufacturer's instructions for use. These guidelines ensure the probes are not damaged during the cleaning process and ensure effectiveness of the cleaning process.

- Probes are intended for single patient use **ONLY.**
- Wear gloves to reduce contamination transfer and infection.
- Clean the probe with a soft brush and a soap/water solution.
- Rinse the probe thoroughly with room temperature tap water for 30 seconds to remove any remaining residue.

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CLEANING AND MAINTENANCE

- Dry the probe with cloth/towel or air dry.
- Visually inspect entire probe to make sure that it's clean, no visible soil remains, and there are no defects in the probe housing or cables, which could potentially cause harm to the patient. If damage is evident, discontinue use of the probe.

DISINFECTION INSTRUCTION

High level disinfection of probe is achieved with appropriately labeled HLD solutions and disinfectant systems. See guidelines and recommendations of the disinfectant manufacturer for appropriate use.

- Wear gloves to reduce contamination transfer and infection.
- Choose an appropriate disinfectant. Approved disinfectants include glutaraldehyde and sodium hypochlorite. Soak probe with 2% glutaraldehyde or 500mg/L sodium hypochlorite solution for disinfection, and wash with tap water.
- After disinfection, follow the disinfectant manufacturer's instructions regarding rinsing with water and subsequent drying.
- Examine the probe for damage, such as cracks, splitting or holes. If damage is evident, discontinue use of the probe.

Note: DO NOT use medical alcohol immersion disinfection, because long-term use of alcohol will affect the performance and service life of the probe. **DO NOT** soak the plug part of the wire in the disinfection solution. Follow disinfectant manufacturer's instructions regarding disposal.

STORAGE

Store device, electrodes, probes, lead wires and manual in carrying case, 32°F ~ 104°F (0°C ~ 40°C), 10%~90% relative humidity. **DO NOT** expose the device to any chemical solvent, lint, dust, direct sunshine or high temperature. Failing to do so may affect the performance of the stimulator. **DO NOT** submerge in water.

DO NOT store in places that can be easily reached by children.
When not in use for extended period, we recommend to remove the batteries before storage, to avoid liquid discharge from batteries.

Ensure that the device and probes are completely dry prior to storage.

Note: If you want to store electrodes for more than a month, keep them at temperatures between 41°F ~ 80.6°F (5°C ~ 27°C). **DO NOT** store the electrodes in the freezer or the refrigerator. Avoid high temperatures and exposure to direct sunlight.

DISPOSAL

If you need to dispose of the device and/or accessories, do so in accordance with the statutory regulations. Contact your local administration or a disposal company.

TROUBLESHOOTING

If you are experiencing trouble with the device, please follow the steps below:

- Check the lead wires for splits or breaks in the wire or at the end where the connectors are attached to the wire.
- Check the lead wires of electrodes. Poor quality electrodes will cause incorrect readings. We ALWAYS recommend the use of good quality electrodes.
- We strongly advise you to keep a spare set of dual and single conductor lead wires.
- We strongly advise you to keep a spare pack of electrodes.
- Some patients vaginal aperture may be too large for some internal probes causing intermittent contact with the walls of the pelvic floor muscles. In such cases, a probe cannot be used.
- If you are using probes, we suggest the usage of conductive gel as recommended by the physiotherapist or doctor.
- If connected to a laptop or desk top computer, check the USB cable for any visible damage as this may obstruct the signal from the device to the computer.
- If none of the above-mentioned problems help, try to restore factory setting.
- If problems are causing ongoing difficulties, please contact Compass Health Brands Corp. for assistance.
- Contact your distributor, who may be able to guide you through any issues.
- You will need to obtain notice from the distributor from whom you purchased the device from, before returning it to them for replacement ore repair (sometimes the returned products are not fault and there are other reasons for it not working, in this situation you might be charged for postage and/or product examination).

TENS AND NMES MODE

- If the current mA reverts back to zero and you see displayed Electrode falling off on the LCD screen, it may be due to an open circuit (no connection) between the input lead wires connected to the unit and the lead wires connected to the surface electrodes. Our device will not produce the stimulation output without electrodes placed on body. Replace electrodes first and then check the lead wires connected to the unit, try a new set of electrodes, and/or another set of lead wires.
- If the stimulation current mA fails, replace batteries and try again.

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LIMITED WARRANTY

Compass Health Brands warrants that your EMG Pro is free of defects in material and workmanship. This warranty shall remain in effect for three (3) years* from the date of the original end user purchase. If this Product fails to function during the warranty period due to a defect in materials or workmanship, Compass Health Brands will repair or replace the respective Product without charge. Compass Health Brands sole obligation in the case of any breach of its warranty set forth in the manual shall be, at Compass Health Brands option, to replace the Product with a new or factory certified refurbished product, without charge to Compass Health Brands purchaser or to refund the purchase price. It is at the discretion of Compass Health Brands purchaser, if they will refund their customer and/or end user. If the Product is requested to be returned and product plus accessories is unopened/unused it can be returned minus a 25% restock fee, to the customer who purchased the Product from Compass Health Brands. All product repairs must be performed by Compass Health Brands or an authorized repair facility. Any modifications or repairs performed by unauthorized centers or groups will void this warranty.

COMPASS HEALTH BRANDS SHALL RESERVE THE RIGHT TO REQUEST PROOF OF PURCHASE FROM THE END-USER TO VALIDATE THE WARRANTY PERIOD

This warranty does not cover:

1. Replacement parts not provided by the manufacturer or labor furnished by anyone other than a Compass Health Brands authorized repair facility or technician.
2. Defects or damage caused by labor furnished by someone other than Compass Health Brands or a certified service technician.
3. Any malfunction in the Product caused by product misuse, including, but not limited to, the failure to provide reasonable and required maintenance or any use that is inconsistent with the Product's Manual. COMPASS HEALTH BRANDS SHALL NOT BE LIABLE IN ANY EVENT FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. Some locations **DO NOT** allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

*The device warranty only applies to the device and does not include any accessories. All accessories have a 12 month warranty.Damages to the device or accessories due to non-adherence with the Instruction Manual and its warning and cautions will exclude the warranty.

To obtain replacement parts, service or a replacement device under this warranty:

4. A claim must be made within the warranty period directly to Compass Health Brands or the company from whom you purchased the device.
5. An RMA number must be obtained from Compass Health Brands in order to receive replacements parts and/or return defective product under the warranty.
6. To contact Compass Health Brands Tech Support Department for troubleshooting and/or replacement request, please call: 888-549-4549, Option 2.

This warranty gives you specific legal rights and you may also have other rights which vary from location to location. Any representative or agreement not contained in the warranty shall be void.

APPENDIX

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CUSTOM PROGRAMS

No.	Treatment time (min)	Frequency (Hz)	Pulse width (us)	Work Time (s)	Rest Time (s)	Ramp Up (s)	Ramp Down (s)
CP1	1~99min	2~100	50~450	2~99	2~99	0.1~9.9	0.1~9.9
CP2	1~99min	2~120	50~450	/	/	/	/
CP3	1~99min	2~120	50~450	2~99	2~99	0.1~9.9	0.1~9.9
CP4	1~99min	5~80	150~400	2~20	2~50	0.1~9.9	0.1~9.9
CP5	1~99min	2~120	50~450	2~99	2~99	0.1~9.9	0.1~9.9
CP6	1~99min	5~80	150~400	2~20	2~50	0.1~9.9	0.1~9.9

NMES PRESET PROGRAMS FOR INCONTINENCE

No	Application	Phase	Phase Type	Phase Time (m)	Work Fre. (Hz)	Rest Fre. (Hz)	Width (us)	Work Time (s)	Rest Time (s)	Ramp Up (s)	Ramp Down (s)
P1	Female Urge	1/1	W/R	25	10	0	240	6	8	1	1
P2	Female Genuine Stress 1	1/1	W/R	20	35	0	250	6	10	1	1
P3	Female Genuine Stress 2	1/1	W/R	20	35	0	250	6	15	1	1
P4	Frequency	1/1	W/R	25	10	0	250	6	10	1	1
P5	External Stress 1	1/2	W/R	35	35	0	300	6	9	1	1
		2/2	CON	10	20	0	300	/	/	/	/
P6	OAB External Stimulation	1/1	CON	25	10	/	220	/	/	/	/
P7	External Stress 2	1/1	W/R	30	35	0	450	7	9	1	1
P8	Mixed Stress/URGE/ Frequency	1/3	W/R	10	10	0	240	5	7	1	1
		2/3	W/R	10	35	0	220	5	8	0.8	1
		3/3	W/R	5	10	0	200	5	8	1	1
P9	Sensory Nerve Test	1/1	W/R	4	20	0	220	6	8	1	1

NMES PRESET PROGRAMS FOR INCONTINENCE

No	Application	Phase	Phase Type	Phase Time (m)	Work Fre. (Hz)	Rest Fre. (Hz)	Width (us)	Work Time (s)	Rest Time (s)	Ramp Up (s)	Ramp Down (s)
P10	Sensory Nerve Damage	1/5	W/R	5	4	0	240	6	8	1	1
		2/5	W/R	10	10	0	300	6	8	1	1
		3/5	W/R	5	15	0	280	6	8	0.8	1
		4/5	W/R	10	40	20	270	5	8	1	1
		5/5	W/R	5	10	0	200	5	8	1	1
P11	F/M Rectal Stimulation	1/1	W/R	20	35	0	220	6	12	1	1
P12	Pelvic Workout	1/5	W/R	5	3	0	250	6	7	1	1
		2/5	W/R	6	10	0	220	6	9	1	1
		3/5	W/R	6	20	0	220	7	7	0.8	1
		4/5	W/R	6	35	0	200	6	10	1	1
		5/5	W/R	5	10	0	220	6	8	1	1
P13	Max Pelvic Floor Exercises	1/3	CON	4	4	/	260	/	/	/	/
		2/3	W/R	5	10	0	300	6	8	0.8	1
		3/3	W/R	5	35	0	300	6	8	0.7	1
P14	Pelvic Floor Endurance	1/4	W/R	5	4	0	240	6	7	1	1
		2/4	W/R	10	10	0	300	8	7	1	1
		3/4	W/R	10	20	0	300	7	7	0.8	1
		4/4	W/R	5	35	0	240	7	7	0.7	1

APPENDIX

NMES PRESET PROGRAMS FOR INCONTINENCE

No	Application	Phase	Phase Type	Phase Time (m)	Work Fre. (Hz)	Rest Fre. (Hz)	Width (us)	Work Time (s)	Rest Time (s)	Ramp Up (s)	Ramp Down (s)
P15	Weekly Maintenance	1/5	W/R	5	4	0	220	6	8	1	1
		2/5	W/R	5	10	0	240	6	8	1	1
		3/5	W/R	5	20	0	240	6	8	0.8	1
		4/5	W/R	5	35	0	220	5	8	0.7	1
		5/5	W/R	4	10	0	200	5	8	1	1
P16	New Mums	1/5	W/R	4	4	0	200	5	10	1	1
		2/5	W/R	10	10	0	200	5	10	1	1
		3/5	W/R	5	20	0	200	5	12	1	1
		4/5	W/R	5	35	0	200	5	12	1	1
		5/5	W/R	4	10	0	200	5	10	1	1
P17	Pain Relief	1/2	CON	20	3	/	200	/	/	/	/
		2/2	CON	10	10	/	200	/	/	/	/

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APPENDIX

NMES PRESET PROGRAMS FOR RE-EDUCATION

No	Application	Phase	Phase Type	Phase Time (m)	Work Fre. (Hz)	Rest Fre. (Hz)	Width (us)	Work Time (s)	Rest Time (s)	Ramp Up (s)	Ramp Down (s)
P1	Muscle Re-Education 10/10	1/1	W/R	15	40	0	300	10	10	2	2
P2	Muscle Re-Education 10/20	1/1	W/R	15	45	0	300	10	20	2	2
P3	Muscle Re-Education 10/30	1/1	W/R	15	50	0	300	10	30	2	2
P4	Strength Augmentation 15/40	1/1	W/R	15	50	0	400	15	45	2	2
P5	Strength Augmentation 10/50	1/1	W/R	15	75	0	400	10	50	2	2
P6	Muscle Re-ed, Slow Twitch Muscle	1/1	W/R	15	35	0	300	10	10	2	2
P7	Muscle Re-ed, Fast Twitch Muscle	1/1	W/R	15	50	0	400	10	30	2	2

NMES PROTOCOLS

No	Application	Indications	Intensity (mA)	Comments
P1	Muscle Re-education 10 on: 10 off	- Endurance - Neuromuscular control - Training with submaximal contractions that require little rest between bouts.	Increase intensity to desired level of submaximal contraction. Should produce a smooth tetanic contraction that allows the patient to superimpose a volitional contraction.	Allows for greater number of contractions. If muscular fatigue occurs, greater rest time should be used.
P2	Muscle Re-education 10 on: 20 off	- Endurance /strength - Neuromuscular control - Training with stronger submaximal contractions that require additional rest time between bouts.	Increase intensity to desired level of submaximal contraction. Should produce a smooth tetanic contraction that allows the patient to superimpose a volitional contraction.	Appropriate when 10 sec of rest is not sufficient.

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NMES PROTOCOLS

No	Application	Indications	Intensity (mA)	Comments
P3	Muscle Re-education 10 on: 30 off	- Strength - Neuromuscular control - Training with stronger submaximal contractions that require a full 30 seconds of rest between bouts.	Increase intensity to desired level of submaximal contraction. Should produce a strong. Smooth, tetanic contraction that still allows the patient to superimpose a volitional contraction.	Appropriate for stronger contractions that require greater rest time between bouts.
P4	Strength Augmentation 15 on: 45 off	- Strength - High Intensity Strength Augmentation using maximal electrically induced contractions with no volitional contraction superimposed. - Quadriceps strength recovery after Total Knee Arthroplasty	Increase intensity to maximal tolerable level. Higher NMES training intensities correlate with greater strength gains. Should produce a strong tetanic contraction.	Use large 3" X 5" electrodes when treating the quadricep.
P5	Strength Augmentation 10 on: 50 off	- Strength - High Intensity Strength Augmentation using maximal electrically induced contractions with no volitional contraction superimposed. - Quadriceps strength recovery after ACL reconstruction.	Increase intensity to maximal tolerable level. Higher NMES training intensities correlate with greater strength gains. Should produce a strong tetanic contraction.	Use large 3"X 5" electrodes when treating the quadricep.
P6	Muscle Re-ed Slow-Twitch Muscles	- Submaximal training of slow twitch postural muscles - Endurance - Patient contracts along with electrical stimulation	Increase intensity to desired level of submaximal contraction. Should produce a smooth tetanic contraction that allows the patient to superimpose a volitional contraction.	Appropriate for training of slow twitch muscle and postural muscles
P7	Muscle Re-ed Fast- Twitch Muscle	- Submaximal training of fast twitch muscles - Strength - Patient contracts along with electrical stimulation	Increase intensity to desired level of submaximal contraction. Should produce a smooth tetanic contraction that allows the patient to superimpose a volitional contraction.	Appropriate for training of Fast-Twitch Muscle

TENS PRESET PROGRAMS FOR PAIN

No	Application	Phase	Phase Type	Phase Time (m)	Work Fre. (Hz)	Rest Fre. (Hz)	Width (us)	Work Time (s)
P1	Sensory TENS 1	1/1	CON	30	100	0	80	/
P2	Sensory TENS 2	1/1	CON	30	120	0	100	/
P3	Motor TENS 1	1/1	CON	30	10	0	200	/
P4	Motor TENS 2	1/1	CON	30	2	0	200	/
P5	Mixed Frequency TENS	1/1	MOD	30	100/2	0	150/200	/
P6	Anti Habituation 1	1/1	MOD	30	2/100	/	200	/
P7	Anti Habituation 2	1/1	MOD	30	100	0	100-200	6
P8	Anti Habituation 3	1/1	MOD	30	10-2	0	100-200	6
P9	Anti Habituation 4	1/1	MOD	30	90-50	0	200	6
P10	Anti Habituation 5	1/1	MOD	30	2/80	0	200	/

TENS PROTOCOLS

No	Application	Indication	Intensity (mA)	Comments
P1	Sensory TENS 1	Acute Pain	Acute Pain Increase intensity to a strong tingling sensation that does not produce muscle contraction or pain.	P1 or P2 can be used for acute pain. If no longer receiving maximum pain relief from one, switch to the other. Use the one that produces the greatest pain reduction
P2	Sensory TENS 2	Acute Pain	Increase intensity to a strong tingling sensation that does not produce muscle contraction or pain.	P1 or P2 can be used to treat acute pain. If no longer receiving maximum pain relief from one, switch to the other. P2 has slight modification in phase duration and frequency compared to P1.
P3	Motor TENS 1	Subacute or Chronic Pain	Increase intensity to a comfortable rhythmical muscle twitching. Gentler twitching for subacute conditions. Stronger for chronic conditions.	P3 or P4 can be used for subacute and chronic pain. If no longer receiving maximum pain relief from one, switch to the other. Use the one that produces the greatest pain reduction.
P4	Motor TENS 2	Subacute or Chronic Pain	Increase intensity to a comfortable rhythmical muscle twitching. Gentler twitching for subacute conditions. Stronger for chronic conditions.	P3 or P4 can be used for subacute and chronic pain. If no longer receiving maximum pain relief from one, switch to the other. P4 has a slight modification in frequency compared to P3.

APPENDIX

No	Application	Indication	Intensity (mA)	Comments
P5	Mixed Frequency TENS	Chronic Pain and for those who are no longer receiving maximum pain relief from either of the motor TENS programs	Increase the intensity slowly. The device will repeatedly cycle between Sensory TENS and Motor TENS producing an alternating sensation of tingling and twitching. Turning the intensity up slowly will ensure that the stimulation is well tolerated during the stronger motor TENS phase.	Mixed Frequency TENS may be helpful in preventing habituation and analgesic tolerance that is likely to occur after repeated daily application of TENS at the same frequency, intensity, and pulse duration.
P6	Anti Habituation 1	Chronic Pain and for those no longer receiving maximum pain relief from the other TENS programs	Increase intensity slowly to ensure that the patient feels strong but comfortable stimulation as the frequency sweeps from 2 pps to 100 pps. Stimulation will provide the sensation of a brief repeated muscle contraction followed by slight pause before the next brief contraction.	Sweeping frequency between 2 pps and 100 pps may be helpful in preventing habituation and analgesic tolerance that is likely to occur after repeated daily application of TENS at the same frequency, intensity, and pulse duration.
P7	Anti Habituation 2	Chronic Pain and for those no longer receiving maximum pain relief from the other TENS programs	Increase intensity slowly to ensure that the patient feels strong but comfortable vibration/buzzing sensation as the phase duration repeatedly adjusts throughout treatment. If a sustained muscle contraction occurs, decrease current intensity.	May be helpful in preventing habituation and analgesic tolerance that is likely to occur after repeated daily application of TENS at the same frequency, intensity, and pulse duration.
P8	Anti Habituation 3	Chronic Pain and for those no longer receiving maximum pain relief from the other TENS programs	Increase intensity slowly to ensure that the patient feels strong but comfortable stimulation as the frequency and phase duration repeatedly adjusts throughout treatment. Provides Motor TENS muscle twitching with sweeping of both frequency and phase duration.	May be helpful in preventing habituation and analgesic tolerance that is likely to occur after repeated daily application of TENS at the same frequency, intensity, and pulse duration.
P9	Anti Habituation 4	Chronic Pain and for those no longer receiving maximum pain relief from the other TENS programs	Increase intensity slowly to ensure that the patient feels strong but comfortable vibration as the frequency sweeps. If a strong sustained muscle contraction is produced the intensity should be lowered.	May be helpful in preventing habituation and analgesic tolerance that is likely to occur after repeated daily application of TENS at the same frequency, intensity, and pulse duration.
P10	Anti Habituation 5	Chronic Pain and for those no longer receiving maximum pain relief from the other TENS programs	Increase intensity slowly to ensure that the patient feels strong but comfortable muscle twitching sensation as the frequency sweeps.	May be helpful in preventing habituation and analgesic tolerance that is likely to occur after repeated daily application of TENS at the same frequency, intensity, and pulse duration.

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