Direct Supply® Direct Choice™ Analog TENS Device

Model #DSDC2CA

Owner's Manual

Thank you for purchasing a Direct Supply® Direct Choice™ Analog TENS Device from Direct Supply® Equipment & Furnishings®. Please read this entire guide carefully and keep it for future reference. This guide will provide you with instructions, warnings, warranty information- and other important information about your Direct Supply Direct Choice Analog TENS Device. Share this information with your housekeeping, nursing and maintenance staff to help ensure the Analog TENS Device is used and cared for properly.

Please keep and refer to this Owner's Manual.

Table of Contents

Introduction and Definitions and Symbols

Introduction

Thank you for purchasing this Direct Supply Direct Choice Analog TENS Device from Direct Supply Equipment & Furnishings, a division of Direct Supply, Inc. In this owner's manual, you'll find important information that you should read before using this device. Please keep this manual available for future reference. Should you have any questions, please contact your Direct Supply Equipment & Furnishings account manager.

Transcutaneous Electrical Nerve Stimulation (TENS) is a non-invasive, drug-free method to help control pain. TENS uses tiny electrical impulses sent through the skin to nerves to modify pain perception. TENS does not cure any physiological problem; it only helps control the pain. TENS does not work for everyone; however, in most patients it is effective in helping to reduce or eliminate the pain, which may allow an individual to return to normal activity.

Definitions and Symbols

NOTE: Indicates a tip.

⚠ Attention. Read the instructions.

WARNING: Calls attention to a potential danger that requires correct procedures or practices in order to prevent personal injury.

CAUTION: Indicates correct operating or maintenance procedures in order to prevent damage to or destruction of the equipment or other property

DEVICE: Your Direct Supply Direct Choice Analog TENS Device

YOU and YOUR: The facility, community or other entity that has purchased the device.

WE, US and OUR: Direct Supply Manufacturing, Inc.

: Degree of Electrical Protection BF

: Direct Current (DC power source)

Safety Notices – Warnings and Cautions

Check your Direct Supply Direct Choice Analog TENS Device each week based on the following checklist:

1. Check the device for external damage, such as deformation of the housing and damaged or defective output sockets.
2. Check the device for defective operating elements, such as the switches or knobs. Check the legibility of labels.
3. Check that the LED is illuminated when its channel is turned on.
4. Check the usability of accessories. Check that the cables and electrodes are not damaged.
5. If the device appears to be damaged in any way, do not use the device and contact Direct Supply Equipment & Furnishings for trouble-shooting assistance.

⚠ WARNINGS

Read and follow all directions and warnings before using this device. Do not operate this device without first reading and understanding this user manual. Damage, injury or even death may result from improper use of this device or not following directions and warnings. This device is intended for use by trained and licensed healthcare or senior care providers in normal, indoor conditions.

- Caution should be used in applying TENS to patients suspected of having heart disease. Further clinical data is needed to show there are no adverse results.
- TENS devices have no AP/APG protection. Do not use it in the presence of explosive atmosphere and flammable mixture.
- The safety of TENS devices for use during pregnancy or birth has not been established. Do not use TENS during pregnancy.
- TENS is not effective for pain of central origin. (This includes headache.)
- TENS devices have no curative value.

- TENS is a symptomatic treatment and as such suppresses the sensation of pain which would otherwise serve as a protective mechanism.
- Electronic monitoring equipment (such as EGG monitors and EGG alarms) may not operate properly when TENS stimulation is in use.
- There should be a prominently placed statement warning that stimulus delivered by this device may be sufficient to cause electrocution. Electrical current of this magnitude must not flow through the thorax because it may cause a cardiac arrhythmia.
- Do not place electrodes on the front of the throat as spasm of the Laryngeal and Pharyngeal muscle may occur.
- Care should be taken so that when operating potentially dangerous machinery the stimulator controls are not changed abruptly.
- Keep this device out of the reach of children and individuals with cognitive impairment.
- Do not use while sleeping.
- Never use in environments with high humidity such as in the bathroom or when having a bath or shower.
- Electrodes should never be placed over the eyes, in the mouth, near the genitals or internally.
- Skin irritation and electrode burns are possible adverse reactions. If either occurs, discontinue use and consult your physician.
- Residents with an implanted electronic device (for example, a pacemaker) should not undergo TENS treatment without first consulting a doctor. The same applies to patients with any metallic implants.

Safety Notices – Warnings and Cautions (cont.)

- This device should not be used while driving, operating machinery, close to water, or during any activity in which involuntary muscle contractions may put the user at undue risk of injury.
- Federal law restricts this device to sale by or on the order of a physician. This device is for use under the order of a healthcare practitioner licensed by your state.
- If the device appears to be damaged in any way, do not use the device and contact Direct Supply Equipment & Furnishings for trouble-shooting assistance.

⚠ CAUTIONS

- Isolated cases of skin irritation may occur at the site of electrode placement following long-term application. Effectiveness is highly dependent upon patient selection by a person qualified in the management of pain patients. This device should be used under the supervision of a licensed healthcare professional.
- Possible allergic reaction to gel, skin irritation and electrode burn are potential adverse reactions.
- If TENS therapy becomes ineffective or unpleasant, stimulation should be discontinued until its use is reevaluated by a licensed healthcare professional.
- Always turn the device off before applying or removing electrodes.

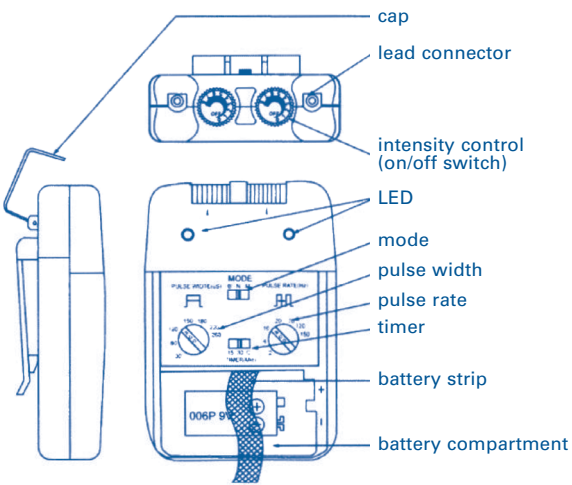
Contraindications

- This device should not be used for symptomatic local pain relief unless etiology is established or unless a pain syndrome has been diagnosed.
- TENS is not recommended for patients with known heart disease without physical evaluation of risk.
- This device should not be used when cancerous lesions are present in the treatment area.
- Stimulation should not be applied over swollen, infected, inflamed areas or skin eruptions (e.g. phlebitis, thrombophlebitis, varicose veins, etc.).
- Electrodes must not be applied to sites that might cause current/stimulation to flow through the carotid sinus region (anterior neck) or transcerebrally (through the head).
- Do not use this device if the patient has a demand-type cardiac pacemaker or any implanted defibrillator.
- This device should not be used over poorly enervated areas.
- Epilepsy.
- Serious arterial circulatory problems in the lower limbs.
- Abdominal or inguinal hernia

Device Description

The Analog TENS Device is a battery-operated pulse generator that sends electrical impulses through electrodes to the body and reaches the nerves causing pain. The device is provided with two controllable output channels, each independent of each other. An electrode pair can be connected to each output channel.

The electronics of the Analog TENS Device create electrical impulses. The intensity, duration, number per second and modulation may be altered with the controls or switches. Dial controls are very easy to use and the slide cover prevents accidental changes in the setting.



Technical Specifications

Specification	Technical Description
Channels	Dual, isolated between channels
Pulse Amplitude	Adjustable, 0-80 mA peak into 500 ohm load each channel
Pulse Rate	Adjustable from 2 to 150 Hz
Pulse Width	Adjustable from 30 to 260 µs
Modulation Mode	Pulse rate is automatically varied in a cyclic pattern over an interval of nominally 10 Seconds (at 150Hz). Pulse rate decreases linearly over a period of 4 seconds from the control setting value to a value which is 40% less. The lower pulse rate will continue for 1 second, then increase linearly over a 4-second period to its original value. The original pulse rate will then continue for 1 second. The cycle is then repeated.
Burst Mode	Bursts occur twice every second.
Waveform	Asymmetrical bi-phasic square pulse
Timer	15 minutes, 30 minutes, continuous
Voltage	0 to 40 V (Load: 500 ohms)
Max Charge per pulse	20 micro-coulombs
Power Supply	One 9V battery
Battery Life	Approximately 50 hours
Size	3.74"L x 2.56"W x 0.93"H
Weight	4.06 oz. (battery included)

Replacement Parts & Accessories

Please contact your Direct Supply Equipment & Furnishings account manager to order replacement parts or accessories for your Analog TENS Device. Only Direct Supply Direct Choice accessories are intended for use with this device. Available accessories may include:

- Electrode leads
- Electrodes
- Belt clip
- Battery case cover
- Lead connector
- Main PCB
- Intensity knob
- B-N-M switch
- Pulse width or pulse rate adjustment knob
- Owner's Manual
- Carrying case

1. Make sure that both intensity control (ON/OFF Switch) knobs are in the "Off" position. Insert the 9V battery into the device's battery compartment. Make sure to remove the plastic seal on the 9V battery. Line up the positive and negative terminals on the battery with their corresponding terminals in the device.
2. Insert the lead wires into the lead wire sockets on top of the device.
3. Open the electrode package. Then insert each lead wire pin into the pig tail of the electrodes.
4. Place the electrode on the resident's body.
5. Slowly turn on the device by rotating the intensity control (ON/OFF Switch) knobs.
6. Select the mode and settings as directed by your licensed healthcare professional.
7. Slowly increase or decrease the intensity as directed by your licensed healthcare professional by rotating the intensity control (ON/OFF Switch) clock wise to increase, counterclockwise to decrease.
8. After treatment, turn the device off by rotating the intensity control (ON/OFF Switch) counter clockwise to the zero setting

Pulse duration:

Wider pulse duration settings will deliver stronger stimulation for any given intensity setting. As mentioned in the "Adjusting the Controls on the Analog TENS Device" section, by using a combination of intensity and pulse duration, it is felt that various pulse widths are capable of stimulating different groups of nerve fibers. The choice of which pulse duration to use is partially dependent upon the Treatment Mode selected (refer to the appropriate section).

Functions and Use (cont.)

Pulse Rate:
The Pulse Rate (hertz or pulses per second) chosen depends greatly upon the type of electrode placement given to the patient. When using contiguous and dermatome electrode placements (i.e. stimulating directly through the area of pain or localized enervation), a quick pulse rate (setting greater than 80Hz on the Pulse Rate Control) is typically desired. The patient should not perceive individual pulses but rather have the sensation of steady continuous stimulation. Despite any general recommendations, individual patients may require slight variations in the device settings, according to the nature of their condition.

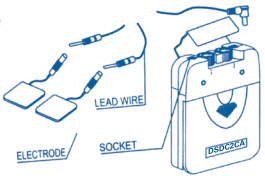
Treatment Mode:
Normal or Conventional TENS offers the practitioners complete control over all the various treatment parameters of the instrument. Burst Mode is analogous to the Low Rate TENS technique except the low frequency individual pulses are replaced by individual "bursts" of 7-10 individual pulses. It is thus a combination of Conventional TENS and Low Rate TENS. In Burst Mode, the treatment frequency is fixed by the instrument and is not adjustable with the Frequency Rate control. Modulated Mode attempts to prevent nerve accommodation by continuously cycling the treatment intensity. When using Modulated Mode, increase the intensity only when the unit is at the maximum intensity of the modulation cycle.

Time Duration:
The onset of pain relief should occur shortly after the intensity setting has been determined. However, in some cases pain relief may take as long as 30 minutes to achieve. TENS units are typically operated for long periods of time, with a minimum of 20- 30 minutes and in some post-operation

protocols, as long as 36 hours. In general, pain relief will diminish within 30 minutes of the cessation of stimulation.

Attachment of Electrode Lead Wires:

The wires provided with the device insert into the jack sockets located on top of the device. Holding the insulated portion of the connector, push the plug end of the wire into one of the jacks (see drawing); one or two sets of wires may be used.



After connecting the wires to the stimulator, attach each wire to an electrode. Use care when you plug and unplug the wires. Jerking the wire instead of holding the insulated connector body may cause wire breakage.

⚠ **CAUTION**: Do not insert the plug of the patient lead wire into the AC power supply socket.

Electrode Options

The electrodes are disposable and should be routinely replaced when they start to lose their adhesive nature. If you are unsure of your electrode adhesive properties, discard the existing electrodes and order replacement electrodes. Replacement electrodes should be re-ordered through or on the advice of a licensed healthcare professional to ensure proper quality. Follow application procedures outlined in electrode packing, to maintain optimal stimulation and to prevent skin irritation.

Electrode Placement

The placement of electrodes can be one of the most important parameters in achieving success with TENS therapy. Of utmost importance is the willingness of the clinician to try the various styles of electrode placement to find which method best fits

the needs of the individual patient. Contiguous placement is the most common placement technique. It involves placing the electrodes alongside the area of localized pain site, in such a way as to direct the flow of current through or around the area of pain. In a single channel application, this would involve placing each pad on either side of the pain site if the pain is localized on a limb and deep within the tissue. Pad placement on the posterior and anterior aspects of the affected limb will typically allow the current to flow completely through the limb and thus through the endogenous pain site. With a two channel application, the clinician may either direct the current flow to cross through the pain site or, in what is called the "bracket" method, allowing the current flow on either side of the painful area, generally through the nerve branches that feed into the pain site.

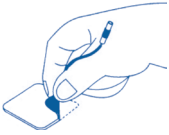
Application of Adhesive Electrodes

Application:

- Clean and dry the skin at the prescribed area thoroughly with soap and water prior to application of electrodes.
- Insert the lead wire into the pin connector on the pre-wired electrodes.
- Remove the electrodes from the protective liner and apply the electrodes firmly to the treatment site.

Removal:

- Lift at the edge of electrodes and peel; do not pull on the lead wires because it may damage the electrodes.
- Place the electrodes on the liner and remove the lead wire by twisting and pulling at the same time.



Care and Storage:

- Between uses, store the electrodes in the resealed bag in a cool dry place.
- It may be helpful to improve repeated application by spreading a few drops of cold water over the adhesive and turn the surface up to air dry.

⚠ **CAUTION**: Over Saturation with water will reduce the adhesive properties.

⚠ **WARNING:**

- Only use the device with Direct Supply Direct Choice electrodes.
- Do not apply electrodes to broken skin.
- The electrodes should be discarded when they no longer adhere to the skin.
- The electrodes are intended for single patient use only.
- If irritation occurs, discontinue use and consult your clinician or other licensed healthcare professional.
- Read the instructions for use of self-adhering electrodes before application.

Tips for Resident Skin Care

To avoid skin irritation, especially if the resident has sensitive skin, follow these suggestions:

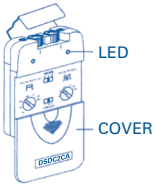
- Wash the area of skin where you will be placing the electrodes, using mild soap and water before applying electrodes, and after taking them off. Be sure to rinse soap off thoroughly and dry skin well.
- Excess hair may be clipped with scissors; do not shave stimulation area.
- Wipe the area with the skin preparation your clinician has recommended. Let this dry. Apply electrodes as directed.

Functions and Use (cont.)

- Many skin problems arise from the "pulling stress" from adhesive patches that are excessively stretched across the skin during application. To prevent this, apply electrodes from center outward; avoid stretching over the skin.
- To minimize "pulling stress," tape extra lengths of lead wires to the skin in a loop to prevent tugging on electrodes.
- When removing electrodes, always remove by pulling in the direction of hair growth.
- It may be helpful to rub skin lotion on electrode placement area when not wearing electrodes.
- Never apply electrodes over irritated or broken skin.

Adjusting the Controls on the Analog TENS Device:

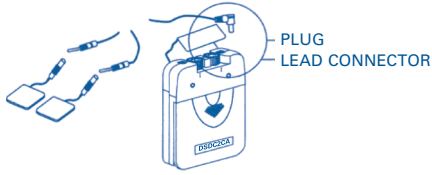
- Slide Cover: A slide-on panel cover covers the controls for Pulse Width, Pulse Rate, Mode Selector, and Modulation Selector. A licensed healthcare professional may wish to set the controls and request that the cover is left in place.



- Display LED: Each of the LEDs illuminates whenever the electronics of the device create a current impulse. Due to the capacity of the human eye, the illumination of the lamp can only be recognized up to a frequency of approximately 30 Hz. At higher frequencies, the lamp will appear to be constantly illuminated.

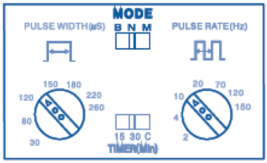
- On/Off Switch and Intensity Control: If both controls are in the off-position (white markings on the housing), the device is switched off. By turning the controls clockwise, the appropriate channel is switched on and the impulse display led will illuminate and begin to pulse according to the frequency set. The current strength of the impulses transmitted to the electrodes increases further when the control is turned clockwise. To reduce the current strength or switch the device off, turn the controls counter clockwise to the required setting or “Off” position.

- Lead Connector: Connection of the electrodes is made with a two-lead connector. The device must be switched off before connecting the cables. Both intensity controls must be at the “Off” position. Electrodes must be pressed firmly on the skin.

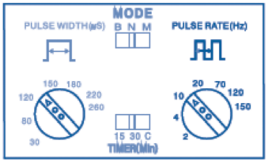


Functions and Use (cont.)

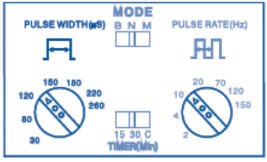
- Mode Control: Expose the controls by sliding front cover down from top of unit. This switch has 3 positions: B for burst stimulation, N for constant stimulation, and M for modulation stimulation. Push the Mode Selector until engaged in position desired.



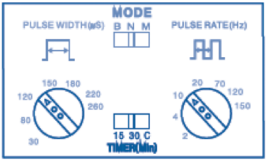
- Pulse Rate Control: This dial determines how many electrical impulses are applied through the skin each second. By turning these controls, the number of current impulses per second (Hz) for both channels can be continually adjusted. Unless otherwise instructed, turn the pulse rate control to the 70-120 Hz range.



- Pulse Width Control: This dial adjusts the length of time each electrical signal is applied through the skin, which controls the strength and sensation of the stimulation. If no instructions regarding the pulse width are given in therapy, set the control to the suggested 70-120 µS setting.



- Timer Control: Treatment time of TENS can be preset with Timer Control. This switch has 3 positions, 15, 30 and C (Continuous). Push the Timer Control until engaged in position desired.



Battery Information

Check/Replace Battery

Over time, in order to ensure the functional safety of TENS, changing the battery is necessary. If you suspect the device is not functioning correctly due to a low battery, immediately discontinue use until the battery has been replaced.

1. Make sure that both intensity controls are switched to off position.
2. Slide the battery compartment cover and remove.
3. Remove the battery from the compartment.
4. Insert a new battery into the compartment. Note the polarity indicated on the battery and in the compartment.
5. Replace the battery compartment cover and slide to close.
6. Discard the old battery in accordance with state and local regulations.

The Direct Supply Direct Choice Analog TENS Device can be used with a rechargeable battery when necessary. If you use rechargeable batteries, please follow the instructions accompanying the batteries.

NOTE: Rechargeable batteries are not included.

Prior to the use of a new unit, the rechargeable battery should be charged according to the battery manufacturer's instructions. Before using the battery charger, read all instructions and cautionary markings on the battery and in this Owner's Manual. After being stored for 60 days or more, the batteries may lose their charge. After long periods of storage, batteries should be charged prior to use.

Care and Maintenance & Troubleshooting

Care and Maintenance

Always verify the device is properly functioning before use. Use a non-flammable cleaning solution to clean the device. Stains and spots can be removed with a mild cleaning solution. When transporting the device, use the padded carrying case to keep the device protected. If the device is not to be used for a long period of time, remove the battery and place the device and accessories in the carrying case and store in a cool, dry place. The device should be stored or transported in a temperature range of 0°-140°F, relative humidity between 20% and 95%, and an atmospheric pressure range of 375-795 mmHg.

⚠ **WARNING**: Do not submerge the device in liquids or expose it to large amounts of water.

Troubleshooting

Should any malfunctions occur while using your Analog TENS Device, check:

1. Whether the switch/control is set to the appropriate form of therapy. Adjust the control correctly.
2. Whether the cable is correctly connected to the device. The cables should be inserted completely into the sockets.
3. Whether the impulse display led is illuminated. If necessary, insert a new battery.
4. For possible damage to the cables. Replace the cable if any damage is detected.

Should you have any issues with your Direct Supply Direct Choice Analog TENS Device, immediately discontinue use and contact your Direct Supply Equipment & Furnishings account manager.

⚠ **WARNING**: Do not try to repair your device.

Limited Warranty

We, Direct Supply Manufacturing, Inc. offer to you, as the original purchaser, a warranty for the Direct Supply Direct Choice Analog TENS Device. Our warranty applies for the limited warranty period stated below. If any device or device part listed below is defective in material or workmanship during the applicable limited warranty period, we will repair or replace it at our cost. Please note that the decision to repair or replace a device or device part will be at our discretion.

Our warranty applies only if the device is properly maintained by the original purchaser for normal, indoor use and does not cover normal wear and tear, modification of the device, or damage caused by abuse, improper use, failure to maintain, use which exceeds the published device limitations, or the combination of any device with another device. In addition, our warranty does not cover fading, colorfastness, stains, spills, or exposure to chemicals, odors, heat or light. In certain cases, we may provide you repair or adjustment instructions and/or replacement parts, and ask you to perform a repair or adjustment or replace a defective part.

Our warranty gives you specific legal rights, and you may also have other rights, which vary, from state to state. Please note that our limited warranty period begins when we ship the device to you. The limited warranty period and our obligations under the warranty end once you transfer the device to someone else, or at the end of the applicable limited warranty period identified below, whichever is earlier.

	Warranty Period (Parts)	Anticipated Usable Device Life
Direct Supply Direct Choice Analog TENS Device	2 years	2 years
Accessories (cables, electrodes)	3 months	3 months

Anticipated Usable Device Life is based on normal use with proper maintenance, cleaning and storage. You should still inspect, monitor and care for the product as described in this guide, as the device may need to be replaced sooner than anticipated in particular situations.

DIRECT SUPPLY MANUFACTURING, INC. MAKES NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE; THESE AND ALL OTHER IMPLIED WARRANTIES ARE SPECIFICALLY DISCLAIMED. TO THE FULLEST EXTENT ALLOWED BY LAW, DIRECT SUPPLY MANUFACTURING INC. WILL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR LOST PROFITS THAT MAY RESULT FROM THE DEVICE OR YOUR USE OR INABILITY TO USE THE DEVICE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. OUR TOTAL LIABILITY TO YOU, IF ANY, IS LIMITED TO THE PRICE OF THE DEVICE OR SERVICE GIVING RISE TO YOUR CLAIM. Some states do not allow an exclusion or limitation of incidental or consequential damages or how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. If implied warranties are not excluded, and to the extent allowed by law, we limit any and all implied warranties to the applicable warranty period identified above. Except for rights under any applicable state law, the remedies provided under this warranty are your sole and exclusive remedy for any breach of our warranty and state the entire limit of our responsibilities.

1-800-634-7328 ▪ directsupply.com

Customer Service

Our promise to you is that you will have a convenient and easy ordering experience, receive a quality Direct Supply Direct Choice Analog TENS Device, and enjoy outrageous customer service. If you have any questions about the Analog TENS Device you have purchased or would like to request warranty service, please contact:

Direct Supply Equipment & Furnishings
at 1-800-634-7328, 6767 North Industrial Road, Milwaukee, WI 53223, deardirect@directsupply.net.

Distributed by Direct Supply Manufacturing, Inc. 6699 N Industrial Road, Milwaukee, WI 53223.

Print Date: July 2013 7547