

APEX



DIGI-COMBO

Digital TENS & EMS

Model: GM320TE (COMBO)

Care for a Healthy Life

CE
0120

Please read the instruction manual before use.



APEX MEDICAL S.L.
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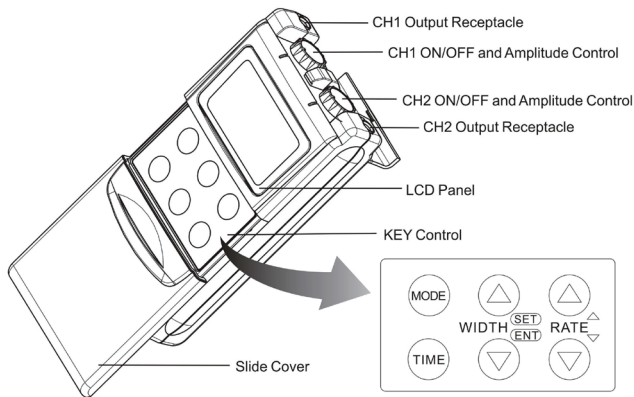


ABKAR MEDICAL
EQUIPMENTS L.L.C

Reliable Partner in Healthcare

ABOUT THE DEVICE

Your device offers two controllable output channels. This device creates electrical impulses whose amplitude, duration, and modulation can be altered with the controls or buttons. The device controls are very easy to use, the cap and slide cover protect accidental changes in settings.



THE DEVICE CONTROLS

Panel cover

A cover conceals the controls for Mode, Time, Width▲▼ (SET/ENT), Rate▲▼ (▲▼). Press the topside of the cover and pull down in order to open the cover.

Intensity

The intensity knobs are located on the top of the unit under the cap for the strength adjustment of the stimulation and also function as ON/OFF controls.

Mode

The Mode key is used to select / set the type of treatment utilized. The seven modes are Burst (B), Continuous (C), Modulation (M), Strength-Duration and Rate modulation (SDR), Strength Duration and Width modulation (SDW), Synchronous (S), Alternation (A).

TIME

Treatment Time of device can be pre-select / set with Time key. There are three programs fixed duration of 15, 30 and 60 minutes and one program of continuous output. Press the key until engaged in position desired.

15 min : 15 min symbol light on.

30 min : 15, 30 min symbols light on.

60 min : 15, 30 and 60 min symbols light on.

Continuous : 15 and 30 min symbols light on, and the 60 min symbol flashes.

To reset timer, turn both channels off. When you are ready to begin another treatment cycle (at least rest for 7 seconds), turn the unit on as normal. The timer will be reset to its current setting.

WIDTH ▲ ▼

The pulse Width key regulates the pulse width for both channels.

RATE ▲ ▼

The pulse Rate key regulates the number of pulse per second for both channels.

SET/ENT

The SET/ENT keys are used to select the type of treatment utilized. The type of treatment utilized includes cycle On time, On Ramp time and cycle Off time. The selected parameter will flash during adjust.

▲ ▼

The ▲ ▼ keys regulate the number of On, Ramp and Off value.

After completed new values setting, press ENT key to update the new value.

ATTACHING THE LEAD WIRES

The lead wires provided with the device insert into the jack sockets located on top of the unit. Holding the insulated portion of the connector, and pushing the plug end of the wire into one of the jacks. After connecting the wires to the stimulator, attach each wire to an electrode.

Lead wires provided with the device are compliant with mandatory compliance standards as set forth by the FDA.

Note: Use carefully when you plug and unplug the wires. Pulling on the lead wire instead of its insulated connector may cause wire breakage.

Caution: Never insert the plug of the lead wire into an AC power supply socket.

ELECTRODE SELECTION AND CARE

Your physician/practitioner should decide which type of electrode is best for your condition. Follow application procedures outlined in electrode packaging to maintain stimulation and prevent skin irritation. The electrode packaging will provide instruction for care, maintenance and proper storage of your electrodes.

Be sure to use the electrodes provided by the manufacturer and/or the similar FDA legally marketed electrode in particular the same cross section area.

CONNECTING THE DEVICE

1. Prepare the Skin

Prepare the skin as previously discussed and according to instructions provided with your electrodes. Before attaching the electrodes, identify the area in which your physician/practitioner has recommended for electrode placement.

2. Connect lead wires to the electrodes

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

Note: Be sure both intensity controls for Channel 1 and 2 are turned to the “OFF” position.

3. Place Electrodes on Skin

Place the electrodes on the skin as recommended by your clinician.

4. Insert Lead Wire Connector to device

Plug end of lead wire into the channel output receptacle to be used, pushing plug in as far as it will go.

5. Select Treatment Settings

Check and be sure your unit is set to the proper settings as recommended by your physician/practitioner.

TECHNICAL SPECIFICATIONS

Channel	Dual, isolated between channels
Pulse amplitude	Adjustable 0-80mA peak into 500 Ω load each channel, constant current
Pulse Rate	1Hz-160Hz (adjustable), 1Hz/step (1-20Hz), 5Hz/step (20-160Hz)
Pulse Width	a. 50-260μs adjustable for TENS, 10μs/step b. 250μs fixed for EMS
Software ramp up feature	By changing mode, the output will reset to zero then ramp up to its original setting intensity. It will protect users from a sudden surge
Patient Compliance counter	Shows the treatment times in hours
Patient Lock System	Prevents the user from changing any fixed parameters set by the physician or licensed practitioner
Timer	15, 30, 60 minute and continuous mode selectable
LCD	TENS - Show modes, pulse rate, pulse width, timer and CH1/CH2 on LCD panel EMS - Show modes, pulse rate, on time, off time, timer and CH1/CH2 on LCD panel.

Function Modes:

TENS	
B	Cycle Bursts, 2Bursts/sec, 9pulses/Burst, 100Hz, width is adjustable.
C	Continuous mode. Pulse rate, pulse width and intensity are full adjustable.
M	Modulated Width. Pulse width is automatically varied in an interval of 6 seconds. The modulation range of pulse width is from setting value to 35% less than the control setting value. And then returns to the setting value. Rate, width and intensity are fully adjustable.
SDR	Strength-Duration and Rate modulation. SDR consists of alternating modulated intensity (amplitude) and pulse rate so that one parameter is always increasing while the other is decreasing and vice-versa. The stimulation intensity decreases 20% from the intensity control setting and returns to the setting value; the pulse rate increase 45% from the modulated rate to the setting value and return to the modulated rate. Total cycle time is 6 seconds. Rate, Width and Intensity are full adjustable.
SDW	Strength-Duration and Width modulation. SDW consists of Alternating modulated intensity (amplitude) and pulse width so that one parameter is always increasing while the other is decreasing and vice-versa. The stimulation intensity decreases 20% from the intensity control setting and returns to the setting value; the pulse width increase 54% from the modulated width to the setting value and return to the modulated width. Total cycle time is 6 seconds. Rate, width and intensity are full adjustable.

EMS

S	Synchronous
C	Constant
A	Alternation
On Ramp	Adjustable 1-8 seconds
Cycle ON Time	Adjustable 1-30 seconds
Cycle OFF Time	Adjustable 1-30 seconds
Wave form	Asymmetrical Bi-phasic square pulse
Max charge per pulse	21 micro-coulombs maximum
Voltage	0-110 Volt (Open Circuit)
Power Source	9-Volt Battery

Dimensions : 108mm(H) ×61.5mm(W) ×25mm(T)

Weight : 140grams (battery included)

All electrical specifications are ±10% 500Ω load.

