

Comparison of SENSUS & General Purpose TENS Devices

	SENSUS	General Purpose TENS	SENSUS Advantage in Patients with Neuropathy
Stimulation Pulse	Biphasic symmetrical, current regulated	Various (typically not symmetrical and current regulated)	Optimal nerve stimulation, minimal skin irritation
Maximum Voltage	100 V	50 V (typical)	Overcome high-impedance skin due to neuropathy
Maximum Current	100 mA	50 mA (typical, 1 kΩ)	Overcome nerve degeneration due to neuropathy
Automatic Determination of Therapeutic Intensity	Yes	No	Optimizes therapeutic benefit, ease of use, does not require in-office "fitting"
Automatic Compensation for Nerve Habituation	Yes	No	Optimizes therapeutic benefit, ease of use
One Button Control	Yes	No	Ease of use, controllable under clothing
Can Be Used During Sleep	Yes	No	Provides all day/night pain control. SENSUS is the only TENS device approved by the FDA for use during sleep.
Accelerometer	Yes	No	Ease of use, sleep enabling functionality
Built in Rechargeable Battery	Lithium-Ion	No, AA or 9V (typical)	Convenience
Low-profile, wearable technology	Yes (no wires)	No (typical), wires (typical)	Worn under clothing, patient is mobile and active
Pre-Configured Electrode	Yes	No	Correct electrode placement, ease of use, patient mobility, no lead wires
Utilization Monitoring	Yes, real-time logging	None (typical), limited when available	Helps physicians optimize treatment, provides compliance documentation

References:

Petrofsky and McLellan. Galvanic skin resistance--a marker for endothelial damage in diabetes. *Diabetes Technol Ther.* 2009. Bennett et al. Methodological quality in randomised controlled trials of transcutaneous electric nerve stimulation for pain: low fidelity may explain negative findings. *Pain.* 2011. Pantaleao et al. Adjusting pulse amplitude during transcutaneous electrical nerve stimulation (TENS) application produces greater hypoalgesia. *J Pain.* 2011. Butikofer and Lawrence. Electrocutaneous nerve stimulation-II: stimulus waveform selection. *IEEE Trans Biomed Eng.* 1979. Kantor et al. The effects of selected stimulus waveforms on pulse and phase characteristics at sensory and motor thresholds. *Phys Ther.* 1994. Bowman and Baker. Effects of waveform parameters on comfort during transcutaneous neuromuscular electrical stimulation. *Ann Biomed Eng.* 1985. Fary and Briffa. Monophasic electrical stimulation produces high rates of adverse skin reactions in healthy subjects. *Physiother Theory Pract.* 2011.