

Cionic

Neural Sleeve™

The Cionic Neural Sleeve™ is bionic clothing that combines the diagnostic power of a gait lab with the therapeutic power of Functional Electrical Stimulation (FES) into a lightweight, durable (and stylish) garment that **can be worn anywhere and work everywhere.**

Cionic Neural Sleeve™ Can Assist With:

- **Improved walking** for individuals with:
 - Multiple Sclerosis
 - Stroke
 - Cerebral Palsy
 - Incomplete Spinal Cord Injury
 - Traumatic Brain Injury, or
 - Other neuromuscular diagnoses
- **Exercise and muscle conditioning** for individuals with leg weakness

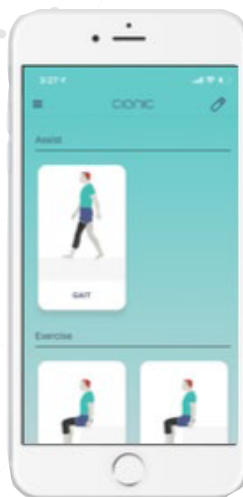


*The Cionic Neural Sleeve is an FDA cleared Class II Medical device
FDA Clearance K213622*

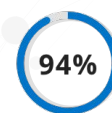
Combines Function & Form

Advanced Technology:

- Coordinated FES activation of dorsiflexors, plantarflexors, quadriceps, hamstrings during gait
- Algorithms that continuously measure user movement and adapt to individual needs
- Easy-to-don sleeve and software-steerable stimulation provide consistent and effective results
- A library of exercise programs through the Cionic app
- First-of-its-kind Read + Write Neural Interface for measuring and activating muscle firings



Rigorously Tested in Trials



94% of participants experienced increased ankle dorsiflexion at heel strike



90% of participants experienced reduced ankle inversion during swing



9° average improvement to dorsi+inversion across all participants

Technical Specifications



CIONIC
Neural Sleeve™

Cionic Neural Sleeve NS-100	
Classification	Internally powered, continuous operation with Type BF applied parts
Power Source(s)	Lithium Polymer (LiPo) rechargeable 7.4V 1900mAh
Controls	Single button
Indicators	Single LED indicator
Operating Modes	Exercise & Assist
Number of Output Channels	1 stimulator channel with 8 virtual Positive output channels and 15 virtual Negative output channels
Number of EMG (input) Channels	8
EMG Sampling Rate	2kHz
EMG detection (Bipolar/Monopolar)	Bipolar
Waveform (e.g., pulsed monophasic, biphasic)	Pulsed Monophasic with hybrid stimulation
Regulated Current or Regulated Voltage	Regulated Current
Charging System	Medical Class II Power Adapter Input: 100-240V ~ 50/60Hz Output: 5V 2A using USB-C cable
Weight	Control unit (DC-100): 145 g Sleeve (SL-100): S2 230g, S4 240g, S6 250g
Dimensions [W x H x D]	Control unit (DC-100) 137 x 53 x 24 mm Sleeve (SL-100) S2 52x61cm, S4 58x63cm, S6 69x68cm
Waveform	Pulsed Monophasic with hybrid stimulation
Shape	Rectangular
Maximum Output Voltage	135 V
Maximum Output Current	100 mA @ 500 Ω , 65 mA @ 2 k Ω , 13 mA @ 10 k Ω
Current	0 to 100 mA at 5 mA increments
Pulse Width	100 to 400 μ s at 100 μ s increments
Frequency	5 – 100 Hz at 5 Hz increments
Maximum Intensity	24.6 mA (rms)
Maximum Load	Maximum load: 300 Ω
Minimum Load	Minimum load: 22 k Ω
Sizes	S2, S4, S6
Materials	Control Unit (DC-100): Injection Molded Plastic (medical grade polycarbonate (Makrolon)) with encased electrical components Sleeve (SL-100) : 84% Polyester 16% Lycra® Sleeve (SL-100) Sensors: Injection Molded Plastic (medical grade polycarbonate (Makrolon)) with encased electrical components
Environmental Ranges	Transport and storage temperature: -4°F to +140°F (-20°C to +45°C) Operating conditions temperature: 41°F to 104°F (5°C to 40°C) Charging temperature: 41°F to 104°F (5°C to 40°C) Relative humidity: 10% to 75% Operating humidity: 15% to 93% Shipping pressure: 20 kPa to 106 kPa Operating pressure: 70 kPa to 106 kPa

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