

Technical Specifications

L300 Plus Control Unit Specifications	
Classification	Internally powered, continuous operation
Operation Modes	Gait, Training, Clinician, and Standby
Battery Type	Rechargeable AAA NiMH 1.2 V, 900–1100 mAh
Controls	<ul style="list-style-type: none"> • On/Off illuminated button • Mode illuminated button to change operating modes • Intensity +/- buttons to fine-tune intensity level • Mute button to mute audio and visual alerts • RF Stim Unit selection buttons • Stimulation test button
Indications	<ul style="list-style-type: none"> • Seven status LEDs: L300 Plus Control Unit, L300 RF Stim Unit, Thigh RF Stim Unit, Intelli-Sense Gait Sensor, L300 RF Stim Unit and Thigh RF Stim Unit Arrow Indicators, and RF Communication • Numerical display designates relative stimulation intensity • Illuminated buttons designate system operating mode • “Beeps” for audio alerts
Carrying Options	In pocket, neck strap, wrist strap, or belt pouch
Dimensions	Length: 73 mm (2.9 in.); Width: 46 mm (1.8 in.); Height: 18 mm (0.7 in.)
Weight	45 grams (1.5 oz.)
Environmental Ranges	<ul style="list-style-type: none"> • Transport and storage temperature: -25°C to +55°C (-13°F to +131°F) • Operating conditions temperature: 5°C to 40°C (41°F to 104°F) • Charging temperature: 5°C to 40°C (41°F to 104°F) • Relative humidity: 25% to 85% • Atmospheric pressure: 700 hPa to 1060 hPa

L300 RF Stim Unit Specifications	
Classification	Internally powered, continuous operation with type BF applied parts
Operating Voltage	3.7 V
Battery Type	Proprietary rechargeable Li-Ion (Lithium Ion) 3.7 V, 750 mAh
Indications	<ul style="list-style-type: none"> • Status (fault, battery, charging) and Stimulation LEDs • “Beeps” for audio alerts
Dimensions	<ul style="list-style-type: none"> • Length: 74 mm (2.9 in.) • Width: 43 mm (1.7 in.) • Height: 15 mm (0.6 in.)
Weight	50 grams (1.6 oz.)
Environmental Ranges	<ul style="list-style-type: none"> • Transport and storage temperature: -25°C to +55°C (-13°F to +131°F) • Operating conditions temperature: 5°C to 40°C (41°F to 104°F) • Charging temperature: 5°C to 40°C (41°F to 104°F) • Relative humidity: 25% to 85% • Atmospheric pressure: 700 hPa to 1060 hPa
Pulse Parameters	
Pulse	Balanced Biphasic
Waveform	Symmetric or Asymmetric
Intensity (Peak)	0–80 mA, 1-mA resolution (positive phase)
Maximum Intensity (rms)	13.2 mA (rms)
Max Voltage	120 V

	Symmetric			Asymmetric		
Positive Pulse Duration (µsec)	100	200	300	100	200	300
Negative Pulse Duration (µsec)	100	200	300	400	800	1200
Inter-Phase Interval (µsec)	50			0		
Total Pulse Duration (µsec)	250	450	650	500	1000	1500
Max Load	5000 ohm (Subject to max voltage limitation)					
Pulse Repetition Rate	20–45 Hz, 5-Hz resolution					
Gait Parameters						
Ramp Up	0–2 seconds, 0.1-second resolution					
Ramp Down	0–2 seconds, 0.1-second resolution					
Extend (%)	0–100% of stance time, 10% resolution					
Max. Duration of Stimulation	2–10 seconds, 1-second resolution					
Training Parameters						
On Time	4–20 seconds, 1-second resolution					
Off Time	4–60 seconds, 1-second resolution					
Ramp Up	0–2 seconds, 1-second resolution					
Ramp Down	0–2 seconds, 1-second resolution					
Total Time	1–60 minutes					

Thigh RF Stim Unit Specifications	
Classification	Internally powered, continuous operation with type BF applied parts
Operating Voltage	3.7 V
Battery Type	Proprietary rechargeable Li-Ion (Lithium Ion) 3.7 V, 750 mAh
Indications	<ul style="list-style-type: none"> • Status (fault, battery, charging) and Stimulation LEDs • “Beeps” for audio alerts
Dimensions	<ul style="list-style-type: none"> • Length: 74 mm (2.9 in.) • Width: 43 mm (1.7 in.) • Height: 15 mm (0.6 in.)
Weight	50 grams (1.6 oz.)
Environmental Ranges	<ul style="list-style-type: none"> • Transport and storage temperature: -25°C to +55°C (-13°F to +131°F) • Operating conditions temperature: 5°C to 40°C (41°F to 104°F) • Charging temperature: 5°C to 40°C (41°F to 104°F) • Relative humidity: 25% to 85% • Atmospheric pressure: 700 hPa to 1060 hPa
Pulse Parameters	
Pulse	Balanced Biphasic
Waveform	Symmetric or Asymmetric
Intensity (Peak)	0–100 mA, 1-mA resolution (positive phase)
Maximum Intensity (rms)	16.5 mA (rms)
Max Voltage	120 V

	Symmetric			Asymmetric		
Positive Pulse Duration (µsec)	100	200	300	100	200	300
Negative Pulse Duration (µsec)	100	200	300	400	800	1200
Inter-Phase Interval (µsec)	50			0		
Total Pulse Duration (µsec)	250	450	650	500	1000	1500
Max Load	5000 ohm (Subject to max voltage limitation)					
Pulse Repetition Rate	20–45 Hz, 5-Hz resolution					
Gait Parameters						
Swing Control Delay (%)	0–100% of phase* time, 5% resolution					
Swing Control End (%)	0–100% of phase* time, 5% resolution					
Stance Control Delay (%)	0–100% of phase* time, 5% resolution					
Stance Control End (%)	0–100% of phase* time, 5% resolution					
Ramp Up	0–2 seconds, 0.1-second resolution					
Ramp Down	0–2 seconds, 0.1-second resolution					
Extend (%)	0–100% of stance time, 10% resolution					
Max. Duration of Stimulation	2–10 seconds, 1-second resolution					
* Stimulation burst can start either on swing or stance phase.						

L300 FS Cuff Specifications	
Material	Fabric-Polymer
Fits Limb Circumference	29–51 cm (11–20 in.)
Dimensions	<ul style="list-style-type: none"> • Height: 160 mm (6.3 in.) • Width: 100 mm (3.9 in.) • Depth: 125 mm (4.9 in.)
Weight	Approximately 150 grams (4.8 oz.)

Thigh FS Cuff Specifications	
Material	Skeleton–TPU; Panel Assemblies and Buckles–Silicone
Fits Limb Circumference	<ul style="list-style-type: none"> • Upper thigh circumference: 53 cm–85 cm (20.9 in.–33.5 in.) • Knee circumference: 33 cm–50 cm (13 in.–19.7 in.) • Thigh length: 24 cm–35 cm (9.4 in.–13.8 in.)
Dimensions	<ul style="list-style-type: none"> • Length: 17 cm–26 cm (6.7 in. – 10.24 in.) • Circumference (minimal): <ul style="list-style-type: none"> • Proximal panel: 42 cm (16.5 in.) • Distal panel, regular: 45 cm (17.7 in.) • Distal panel, large: 51 cm (20.1 in.)
Weight	Approximately 420 grams (14.8 oz.)

Intelli-Sense Gait Sensor Specifications	
Classification	Internally powered, continuous operation with type BF applied part(s)
Battery Type	Lithium coin cell, CR2430, 280 mAh
Dimensions of the Transmitter	<ul style="list-style-type: none"> • Length: 80 mm (3.2 in.) • Width: 50 mm (2.0 in.) • Height: 10 mm (0.4 in.)
Weight	35 grams (1.1 oz.)
Environmental Ranges	<ul style="list-style-type: none"> • Transport and storage temperature: -25°C to +55°C (-13°F to +131°F) • Operating conditions temperature: 5°C to 40°C (41°F to 104°F) • Relative humidity: 25% to 85% • Atmospheric pressure: 700 hPa to 1060 hPa

Charger Specifications

Use medical Class II safety approved power supply provided/approved by Bioness with the following ratings:

Input	
Voltage	100–240 V AC
Current	400 mA
Frequency	50–60 Hz
Output	
Voltage	5 V \pm 5%
Current	2400 mA

Note: Do not use the NESS L300 Plus System while charging. Do not wear the L300 or Thigh FS Cuffs while charging.

Wireless Link Specifications

Frequency Band	2.4 GHz, ISM band
Transmission Power	Complies with FCC 15.247 (for U.S.) regulations

L300 Electrode and L300 Electrode Base Specifications	
Hydrogel Electrodes	Two 45-mm (1.77-in.) diameter hydrogel electrodes Note: Use only electrodes provided by Bioness Inc.
Hydrogel Electrode Bases	Two relocatable polymer electrode bases
Cloth Electrodes	Two 45-mm (1.77-in.) diameter non-woven fabric/cloth electrodes Note: Use only electrodes provided by Bioness Inc.
Cloth Electrode Bases	Two relocatable polymer electrode bases
Thigh FS Cuff Cloth Electrode Specifications	
Material	Non-woven cloth Note: Use only electrodes provided by Bioness Inc
Dimensions	Proximal: Oval, 130 mm x 75 mm (5.1 in. X 3 in.); Distal: Oval, 120 mm x 63 mm (4.7 in. X 2.5 in.)