

ADVANCE™ NCS/EMG System

Technical Specifications

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Dimensions	Specifications
Size	
Device	7.1"H x 3.2"W x 1.9"D
Charger	4.4"H x 4.9"W x 5.1"D
Communications Hub	6.0"H x 2.8"W x 1.4"D
Weight	
Device	13.6 oz. (0.38 kg)
Charger	10.4 oz. (0.65 kg)
Communications Hub	4.0 oz. (0.12 kg)
Environmental: Shipping and Storage	
Temperature	-20°C to 50°C
Humidity	5% to 90%, non-condensing
Altitude	55 kPa to 101 kPa
Operating	10°C to 30°C

NCS Analog Front End (AFE)	Specifications
Common Mode Rejection Ratio	90 dB min
Noise	<2 μ V rms
Gain	33.5 – 3233.0
Frequency Response	
Low Pass (-3 dB)	7 kHz
High Pass (-6 dB)	14 Hz
Differential Input Voltage Range	1 μ V to 75 mV p-p
Saturation Recovery	< 1 ms
A/D Resolution	24 bits
Sampling Frequency	20 kHz
Channels	2
Electrode Detect	Yes

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Device	Specifications
Batteries	Rechargeable Lithium Ion or 3 AA
Battery Protection	Re-settable fuse
Real Time Clock	Yes
Speaker	8 Ω
Measure/ Power On Switch	Yes
Test Memory	3 MB
Compact Flash Card	Yes
Reset Button	Yes
Display	Touch Screen LCD (240 x 320 Pixels)
Communication	Bluetooth®
AP/APG Equipment	Not AP or APG applicable
Water Resistance	IEC 529 IPX0 not protected from ingress of liquids
Classification Type	BF Applied Part, IEC 60601-1

Stimulator	Specifications
Channels	1 Anode/cathode pair
Stimulus Type	Monophasic or biphasic square wave
Maximum Output Voltage	420 V
Over-voltage Protection	Yes
Charge Time	30 s
Current (3.5 kOhm load)	0-120 mA, 50-2000 μs ¹
Pulse Maximum Repetition Frequency	2 Hz
Sub-threshold Polarization Stimulus	Yes
Impedance Measurement	100 – 100 kΩ
Maximum Pulse Duration Error	<10%
Maximum Stimulation Current Error	<10%
Maximum Patient Leakage Current	10 μA
Maximum Energy Delivered (IEC 601-2-40)	50 mJ

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¹ Stimulator output limited by firmware to 100 mA current and a pulse width of 500 μs.

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Communication Hub	Specifications
Communication	Bluetooth®
Maximum Communication Distance	30 feet
Modem	Analog, 56 kbps
Fax/phone Connector	RJ11
Reset Button	Yes
Test Memory	3 MB
Power Source	AC adapter manufactured by CUI Stack Model 3A-041W-U05 (US), -T05 (EU), -E05 (UK)
AC Adapter Classification	Class II, IEC 60601-1

EMG Module Analog Front End (AFE)	Specifications
Common Mode Rejection Ratio	90 dB min
Noise	<2.5 μ V rms
Frequency Response	
Low Pass (-3 dB)	5 kHz
High Pass (-6 dB)	2 or 16 Hz, selectable
Differential Input Voltage Range	50 μ V to 30 mV p-p
Gain	100x – 10,000x
A/D Resolution	16 bit
Sampling Frequency	10 kHz
Measurement Accuracy	\pm 4% typical
Channels	1
Charger	
Power Source	AC adapter manufactured by Ault Inc. PN MW128RA0503-B01 (US), -F01 (Worldwide)
AC Adapter Classification	IEC 60601-1

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EMG Module	Specifications
Audio	
Speaker	4 Ω
Power	3.2W
Filter	4 pole low pass set to 1.5 kHz
Data Storage	
Flash	128 kb min
EPROM	4 kb min
SPRAM	4 kb min
Communication	
Communication	Bluetooth®
Maximum Communication Distance	10 feet
Throughput	200 kbs typical
Battery	
Type	Rechargeable Lithium Ion
Battery Protection	Re-settable fuse
AP/APG Equipment	Not AP or APG applicable
Water Resistance	IEC 529 IPX0 Not protected from ingress of liquids
Power Source	AC adapter manufactured by Ault Inc. PN MW128RA0503-B01 (US), -F01 (Worldwide)
AC Adapter Classification	BF applied part, IEC 60601-1

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