

EEG Module, E-EEG

For continuous integrated neuromonitoring



The E-EEG Module is a single-width, plug-in module for continuous integrated neuromonitoring with four channels of EEG and with auditory evoked potentials (AEP).

The EEG Headbox, N-EEG, must be used with the E-EEG Module.

Features

- Designed for anesthesia and critical care
- Referential or bipolar measurement possibility
- Automatic impedance check and leadset recognition
- Saving for user-defined measurement montages
- Preconfigured leadsets for the most frequently used montages

EEG

- Four channels of EEG with electromyogram (EMG) recognition
- Raw EEG waveform displayed with user-selectable scaling
- Spectral analysis by fast fourier transform (FFT)
- Graphical trends of spectral parameters
- Compressed spectral array (CSA) display and printout
- Burst suppression detection, burst suppression ratio (BSR) and artifact detection

AEP

- Single or continuous (moving average) measurement for up to two channels
- View for averaged evoked responses
- Latencies and amplitudes can be measured and saved for printing at the end of the case
- Possibility to save a reference evoked response and display it together with the current response



Technical specifications

Direct function keys

EP Start/Stop	Starts or stops AEP measurement
Imp. Check	Starts checking electrode impedance

EEG

Measurement

Sampling frequency	100 Hz per channel
Range	$\pm 400 \mu\text{V}$
Frequency range	0.5 to 30 Hz
Resolution	60 nV
Input impedance	$> 8 \text{ M}\Omega$ at 10 Hz
Noise level	$< 0.5 \mu\text{V}$ rms from 0.5 Hz to 30 Hz
CMRR	$> 100 \text{ dB}$ at 50 Hz

Analysis

Parameters from power spectrum	SEF, median frequency, relative power in frequency bands
Burst suppression	BSR

AEP

Stimulation

Click (condensating)	Duration 100 μs
Frequency	1.1 to 9.1 Hz (1 Hz steps at 10 ms meas.)
Intensity	10 to 90 dB nHL, 10 dB steps

Measurement

Sampling frequency	2400 Hz for MLAEP / 4800 Hz for BAEP
Frequency range	0.5 to 1000 Hz
Highpass filter	Off / 10 / 30 / 50 / 75 / 100 / 150 Hz
Single or continuous averaging possibility	

Single average

Number of averaged responses	100 to 2000
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Moving average

Gross average	100 to 2000
Update interval	After every 100 stimuli (200, when gross average is 2000)

EMG

Frequency range	60 to 300 Hz
Amplitude	Root mean square (RMS)

Monitor compatibility

CARESCAPE™ modular monitors

S/5 monitors using software S-ANE99(A), L-ARK99(A), S-ICU99(A) or later versions

Environmental specifications

Operating conditions

Temperature	10 to 40°C (50 to 104°F)
Relative humidity	10 to 90% non-condensing

Storage conditions

Temperature	-25 to 70°C (-13 to 158°F)
Relative humidity	10 to 90% non-condensing

Physical specifications

Module

Dimensions (H x W x D)	11.2 x 3.7 x 18.6 cm (4.4 x 1.5 x 7.3 in)
Weight	0.3 kg (0.7 lb)

Headbox

Dimensions (H x W x D)	3.4 x 9.7 x 17.4 cm (1.3 x 3.8 x 6.9 in)
Weight	0.4 kg (0.9 lb) (incl. 3 m/118 in cable)

Warranty

One year

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