

# CerebraLine

Three Channel EEG and aEEG

## Technical Specification

The CerebraLine is a three channel EEG amplifier module (i.e., 'CerebraLine module') with Amplitude Integrated EEG (aEEG) recording and display capability (i.e., CerebraLine PC'). It is used as a front end EEG amplifier interfaced to PC, where EEG and aEEG can be displayed and stored.

### CerebraLine Module

#### Physical Dimensions

- HxWxD: 140/95/30 mm (5.5/3.7/1.2 inch)
- Weight: 300 gr (0.66 lb)
- 5 sockets for DIN (1.5 mm) safety electrodes cables
- Power Consumption: 5V/300 mA

#### Interface

- USB 2.0
- Interface Cable length 1.2 m (47.2 inch)

#### Amplifier

- 3 different channels: CH1, CH2, CH3 + Reference.
- Maximum input Range:
  - ◊ Input range +/400  $\mu$ V p-p full scale
  - ◊ DC input offset: +/- 2500 mV maximum
- Input impedance > 5 M $\Omega$
- Linearity  $\pm$ 2%
- Common Mode Rejection Ratio 130 dB at 50/60 Hz
- Bandwidth 0.5 Hz to 75 Hz (-3db)
- Noise < 10nV/ sqrt (Hz) at 100Hz
- Bias Current: Less than 7nA per input
- Input isolation – Double isolation
- Calibration: N/A (Not required)
- Sensitivity: 0.1  $\mu$ V

#### A/D

- Sampling frequency: 640 Hz per channel
- A/D span: 24 bits
- Low filter (High pass) 0.3/0.5/1.5/3/5/10 Hz
- High filter (Low pass) 15/35/50/70 Hz
- Degree of protection: Type BF Applied part

#### Environmental Operating Conditions

- Temperature: +5 $^{\circ}$ C to +40 $^{\circ}$ C (41 $^{\circ}$ F to 104 $^{\circ}$ F)
- Humidity: 10 to 93 percent, non-condensing

#### Environmental Storage Conditions

- Temperature: -15 $^{\circ}$ C to +68 $^{\circ}$ C (5 $^{\circ}$ F to 154 $^{\circ}$ F)
- Humidity: 10 to 93 percent, non-condensing

### CerebraLine PC

#### Physical Parameters

- LCD size—19"
- LCD resolution—1280 x 1024 (H x V) (0.294mm x 0.294mm per pixel)
- Operational system: Windows 10
- Touch screen
- Virtual keyboard
- Video camera (Optional)

#### aEEG Parameters

- 3 x Differential channel (CH1, CH2, CH3): EEG/aEEG channels
- 1 Calculated Channel
- Signal Quality Scale (Resistance) - 0 to 5
- EEG Gain: 10,20,50,70,100,200  $\mu$ V/cm;
- aEEG Range: 100, 200 $\mu$ V
- EEG/aEEG history duration: Up to 7 days recording
- aEEG gray scale display: 3 Hours
- EEG sweep speed : 15 or 30 mm/Sec

#### aEEG System Features

- Section marking
- Event marking
- Snapshot
- Built-In viewer
- Video Recording and Viewing (optional)
- Playback Recorder
- Patient List
- Interactive Electrodes Connection Guide

#### Data Export

- USB for Data output (viewer on PC)

#### Environmental Operating Conditions

- Temperature: +5 $^{\circ}$ C to +40 $^{\circ}$ C (41 $^{\circ}$ F to 104 $^{\circ}$ F)
- Humidity: 10 to 93 percent, non-condensing

#### Environmental Storage Conditions

- Temperature: -15 $^{\circ}$ C to +68 $^{\circ}$ C (5 $^{\circ}$ F to 154 $^{\circ}$ F)
- Humidity: 10 to 93 percent, non-condensing

#### Accessories (optional)

- Patient Monitoring USB Camera and a flexible arm
- Monitor Cart

