

Hb13 Series Brain-NIRS System

Wearable brain blood visualization device

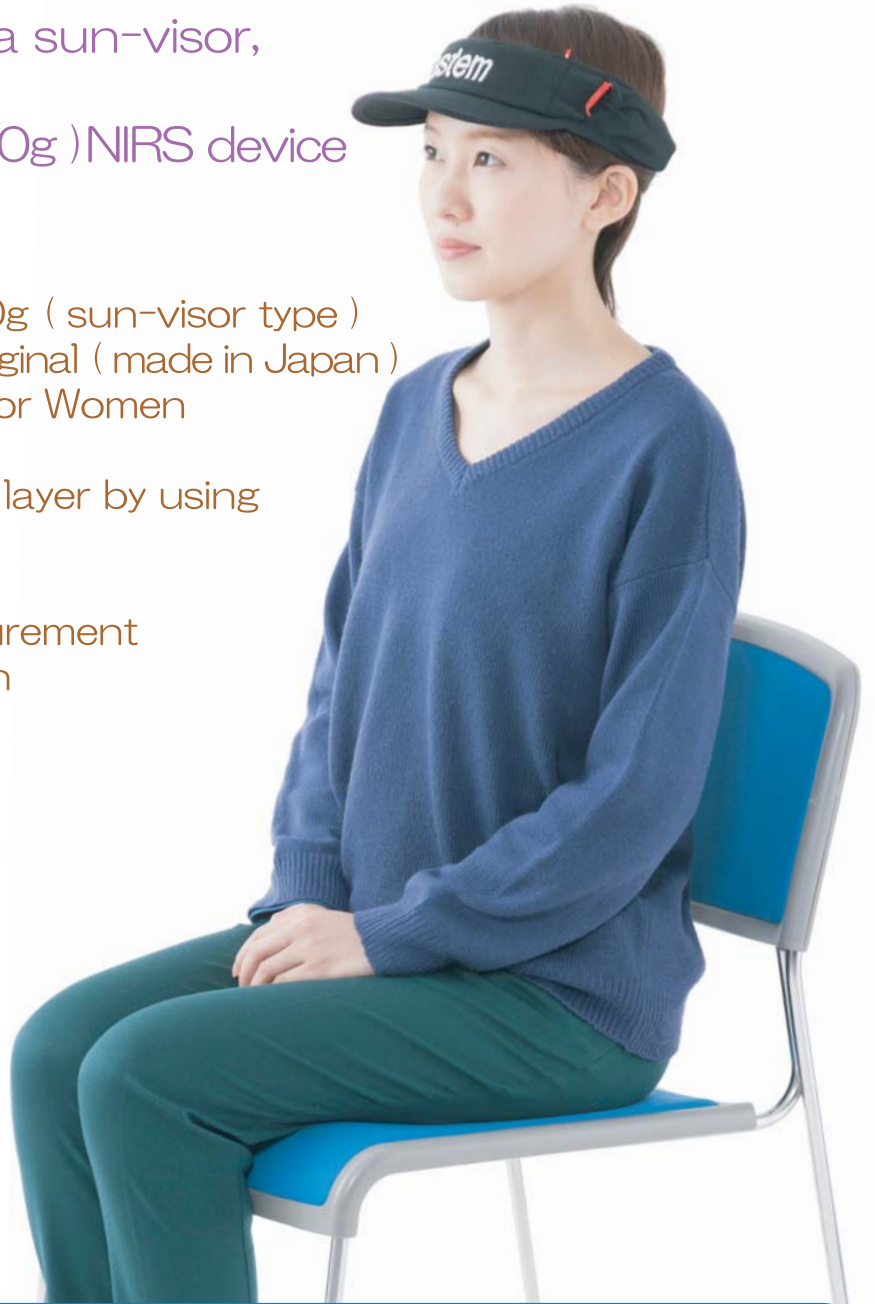
In a moment of wearing a sun-visor,
measurement starts!

Extremely lightweight (110g) NIRS device

Hb131 features

- Extremely lightweight of 110g (sun-visor type)
- Stretch fabrication, ASTEM original (made in Japan)
- M/L size for men, M/S size for Women
S size for kids is optional.
- Increasing accuracy of deep layer by using
surface layer blood volume
- Displaying real time trend
- Enabling long periods measurement
with low power consumption
- Low price

Hb131S



Specifications

- LED sensor : 4channels (fixed)
- Measurable items (each channel)
surface layer (scalp) : oxy-Hb*), deoxy-Hb*) *)Hb : Hemoglobin
deep layer (brain) : oxygen saturation (rSO2 : %), oxy-Hb, deoxy-Hb (mM)
- Acceleration sensor (X, Y, Z)
- Increasing the accuracy of deep layer by using surface layer blood volume
- Wireless device : ZigBee protocol
- Power Supply : 2AAA dry batteries
- Sampling rate : Max.20Hz

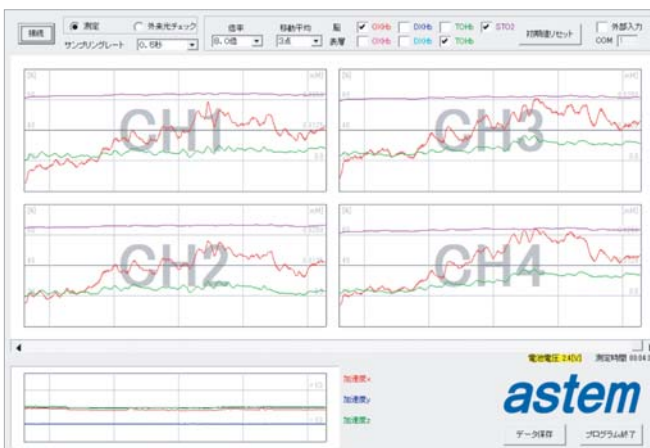
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Technologies for Wellness and Happiness

Specifications

Product Type	Hb131S (Sun-visor type)
Measurement Method	NIRS (Near-Infrared Spectroscopy) Specially-Resolved Spectroscopy (SRS) Method
Light Source	2 Color LEDs peak wave length : 770+/-10nm and 830+/-10nm average power : ~1mW /LED
Light Reception	Photo Diodes
Sensor Board	Flexible Printed Circuits (FPC) Warning : repeated bending breaks circuit
Number of Cannels	4 channels (fixed) At50m seconds at sampling rate, 2ch
Output Data Format	csv type
Sampling Rate	0.05 (2ch), 0.1/0.2/0.5/1.0 (4ch) second
Measurement Items	Regional Saturated Oxygen (rSO2 : %) Deep layer (brain) : Oxygenated hemoglobin (Oxy-Hb) Deoxygenated hemoglobin (Deoxy-Hb) Total hemoglobin (Total-Hb) Surface layer (scalp) : Oxy-Hb, Deoxy-Hb, Total-Hb 3-axis acceleration (max : 2G)
Power Supply	2AAA dry batteries (1.5V*2)
Wireless Connection	ZigBee protocol (IEEE 802.15.4compliant) Certificated countries : Japan, Taiwan, EU, US, Canada etc.

- Sun-visor size : M/L for men, M/S for women (color : Black only)
S for kids is optional
- Sun-visor is consumable goods, and can be ordered separately.
- Following software are provided in a USB device.
 - Measurement software, analyzing software, data converter
 - Instruction manual
 - One year warranty certificate



Measurement screen on PC

The wireless band used in this device is shared with Bluetooth, micro-wave etc., and data communication may be interfered each other resulting data loss.

Important Matter

- The device may not be used for medical purposes.
Approval by an ethics committee is required for medical use.
- The development and sales of software connecting our devices can be possible when contact us beforehand.
necessary information can be provided with no charge.
- The optical measuring and correction algorithm of this product is carried out by Astem Co., LTD. under the exclusive license of Shizuoka University owned technology.

Manufacturer/Distributor



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