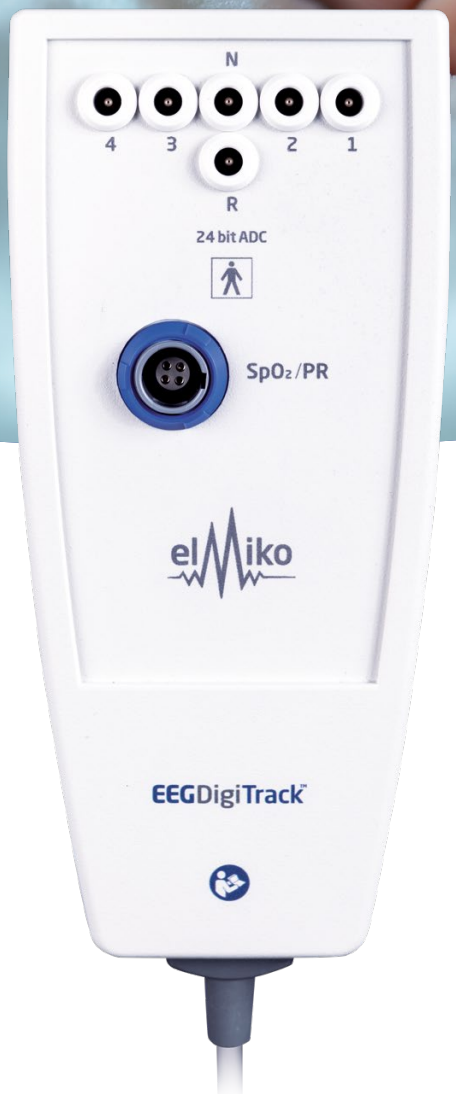
aEEG /CFM

LONG-TERM BRAIN
FUNCTION MONITORING



ELMIKO
aEEG/CFM
SYSTEM
NIRS/SpO_2

elMiko

Create to Help

aEEG CFM

Drug therapy monitoring

Therapeutic hypothermia

Metabolic disorders

Hydrocephalus

Neuroinfections

Seizures

Sepsis

HIE
HYPOXIC-ISCHEMIC ENCEPHALOPATHY

CARDIORESPIRATORY **failure**

Create to Help

THE ELMIKO aEEG/CFM SYSTEM PROVIDES SOLUTIONS FOR:

DIAGNOSTICS

THERAPY

SCIENCE

WHAT IS aEEG?

aEEG, or amplitude-integrated EEG, is a simplified and processed form of classical EEG used in neonatal neurology.

aEEG continuously monitors the brain's electrical activity and presents it in a simplified, integrated form as an amplitude trend. This allows clinicians to more easily assess brain function, for example in cases such as:

- Assessment of perinatal hypoxia
- Seizure monitoring (including subclinical)
- Evaluation of preterm brain maturation
- Monitoring during resuscitation or surgery

How does it work?

- Usually uses 2-4 electrodes (instead of dozens as in classical EEG)
- The signal is filtered and displayed as a long-term amplitude trend of brain activity
- Can operate for many hours or days, often near an incubator

In neonatal intensive care, CFM (Cerebral Function Monitoring) means continuous brain function monitoring to quickly detect neurological changes.

CFM is used, for example, in:

Patients after cardiac arrest and cardiopulmonary resuscitation **(OHCA)**, severe brain injuries **(TBI)**, **metabolic encephalopathy**, toxic or hypoxic brain injury, **coma** of unknown origin, deep **sedation**, **therapeutic hypothermia**, **epileptic seizures** (e.g., in leukemia-related epilepsy)

CFM devices:

- Provide a processed, **simplified EEG signal** (aEEG) to allow quick recognition of functional brain changes without the continuous presence of a neurologist
- Are used in neonatal ICUs **(NICU)**
- Often feature **alarm functions** in response to abnormal brain activity

APPLICATION OF THE aEEG/CFM SYSTEM

The aEEG/CFM system is used in neonatal intensive care units (NICU), as well as in neurology and neurosurgery, and is particularly useful for:

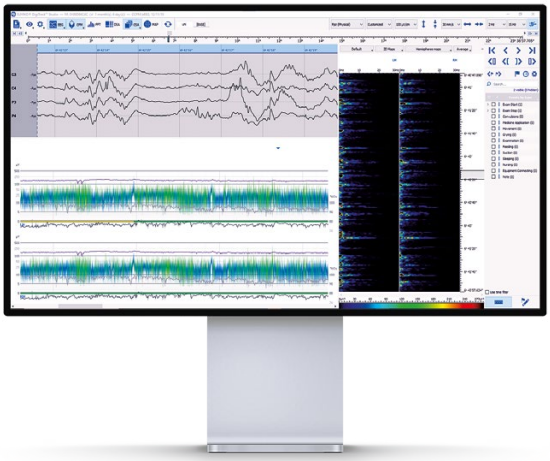
- Assessing brain function when communication with the patient is limited (e.g., due to sedation or coma)
- **Detecting silent seizures** (subclinical)
- **Evaluating effectiveness** of antiepileptic therapy
- **Assessing neurological** prognosis after cardiac arrest
- **Monitoring** therapeutic hypothermia treatment

The ELMIKO aEEG/CFM system is used in:

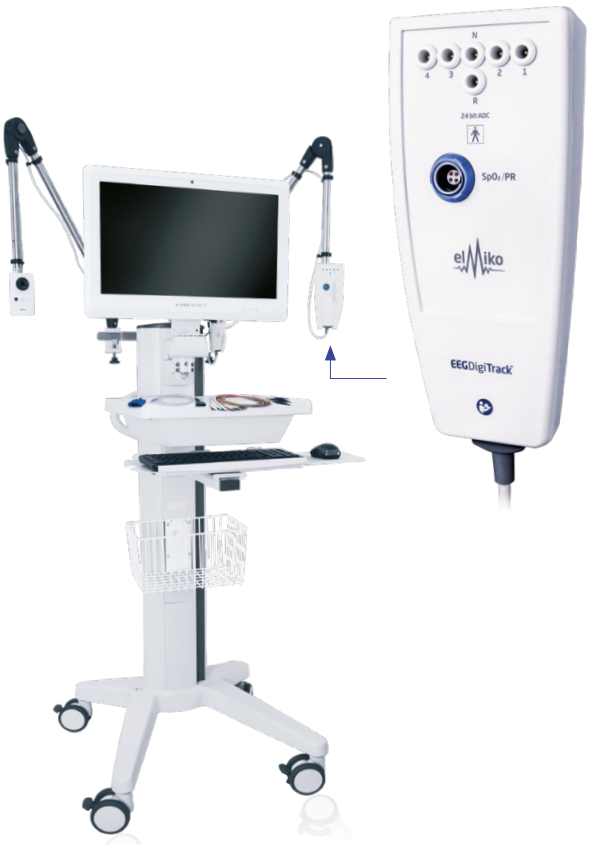
- Neonatal intensive care units **(NICU)**
- **Neurological and neurosurgical** clinics and departments
- **Anesthesiology** and coma treatment
- **Internal medicine and general wards**, especially for critically ill patients

ADVANTAGES OF THE aEEG/CFM SYSTEM

- Intuitive and comprehensive multimodal **long-term trend monitoring**, covering EEG, HR, SpO_2 in a single display
- **rSO_2 signal recording capability** on up to 4 channels
- Option to expand with **video module** (1 or 2 cameras)
- Unique feature for **automatic color marking** of EEG traces depending on brain activity level (signal amplitude)
- **Personalized alerts** for saturation, heart rate, brain bioelectrical activity, or electrode impedance
- Unique **aEEG trend visualization** with shadowing, dynamically presenting average, minimum, and maximum EEG values to facilitate real-time signal trend analysis
- Advanced measuring strip dedicated to **trend and signal analysis**

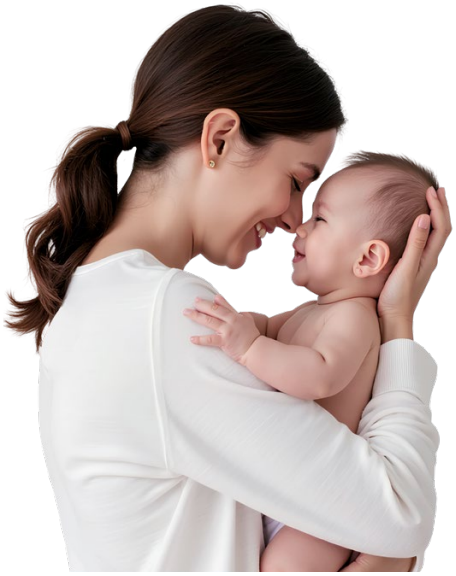


- Possibility of **custom EEG display configuration**, including time scale and visualization parameters tailored to user needs
- Advanced EEG signal analysis methods, including **FFT, mapping, TPM, DSA, CSA, BSI**, and other techniques for assessing brain bioelectrical activity



FUNCTIONALITIES OF ELMIKO SYSTEM

- Modern EEG amplifer **enabling operation on 3 or 5 channels** (including 2 or 4 dedicated to EEG signal recording), with upgrade options to full 32-channel clinical systems, depending on needs
- Continuous impedance measurement ensures **high signal quality** and accuracy
- **Lightweight, durable, and damage-resistant** design for safe clinical use
- Stable and reliable USB **communication**
- Possibility to work with a mobile therapy station – system can be installed on **a mobile medical cart or integrated into stationary units**
- aEEG trend visualization with **color coding** – allows for easy interpretation of brain activity
- Integration of EEG signals with SpO_2 and rSO_2 – supports early **identification of hypoxia and ischemia**
- **Intuitive user interface** enables quick data interpretation and real-time reaction
- System complies with **data protection** regulations **(GDPR)**



The ELMIKO CFM system stands out with its ability to provide long-term, color-coded monitoring of EEG trends along with additional vital signs—all in one system.

An ideal solution for ICUs where quick reaction and accurate patient assessment are crucial.

INNOVATIONS THAT MAKE A DIFFERENCE

- **CCFM - CFM color trend**
  A unique color-coding function for the aEEG/CFM trend graph that automatically assigns colors to brain activity patterns (normal, depression, high, burst suppression), significantly simplifying interpretation and enabling rapid assessment of the patient's neurological condition.
- **SpO_2 and rSO_2 correlation with CFM trend**
  Simultaneous display of oxygen saturation (SpO_2) and regional saturation (rSO_2) parameters alongside the CFM trend graph allows users to assess whether a drop in brain activity is due to hypoxia or other circulatory--respiratory disorders—or, conversely, whether there is brain inactivity without signs of oxygen deficiency.
- **vCFM - Video CFM**
  An optional video module allows real-time patient image recording synchronized with CFM data. This increases clinical insight and enables the documentation of critical events.

ADDITIONAL OFFER

- Professional **training** in aEEG/CFM data interpretation
- Assistance with **offer and tender presentation** preparation
- **Technical support** (on-site and remote)
- Wide range of **accessories**: caps, gels, electrodes

CFM SPECIALIST

A CFM specialist is a person with a medical or technical background, trained in:

- **Interpreting** aEEG/CFM data (e.g. seizure detection, depth of sedation assessment)
- **Operating** the monitoring system and integrating other parameters (SpO_2, rSO_2)
- **Applying the CFM system** to monitor patients in comas or with brain injuries

- **To become a CFM specialist in an ICU setting, one must:**
- Have **medical qualifications** (doctor, nurse, medical technician)
- Undergo **training** in CFM operation and data interpretation (e.g. via AKSON Education Center)
- Have **practical experience** with intensive care patients

Create to Help

The **ELMIKO GROUP** is a Polish brand with extensive, international experience, providing interdisciplinary support to clinicians and therapists in neurology and related fields. Together, we provide high-quality equipment and modern diagnostic methods, while simultaneously training specialists and focusing on patient well-being.

Our brands

ELMIKO is a manufacturer and distributor of cutting-edge medical apparatus and innovative solutions for neurology and neurotherapy, including systems for EEG, CFM, EEG Biofeedback, tES, TMS, and EMG.

The **AKSON Education Centre** organizes and conducts training in neurodiagnostics and neurotherapy for physicians, medical technicians, psychologists, educationalists, and therapists, including EEG, EMG, QEEG, EEG Biofeedback, tES, TMS, and others.

NEURODIAGNOSTYKA, a centre for neurological diagnostics and neurotherapy, provides services to individual patients. It offers services on-site, in neurological clinics and at the patient's home, as well as providing diagnostic services and equipment leasing in hospitals and clinics.

ELMIKO VET, a manufacturer of veterinary neurological equipment. It offers advanced solutions that support veterinary clinicians in the field of animal neurology and neurotherapy, including EEG diagnostics, and pain management and treatment.

ELMIKO BIOSIGNALS
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