Cerebral function monitor "Encephalan-CFM" is available in portable and mobile versions.

- **For portable version**, the required equipment and laptop are fitted into one carrying bag.
- **For mobile version**, a computer, a monitor for displaying information, and a printer for documenting the monitoring results, as well as a video equipment kit for synchronized video monitoring, and stored components (autonomous patient transceiver-recorder, additional devices, sensors, gel, accessories) are all placed on a comfortable trolley.

**Application modes of CFM monitor:**

- **telemetric** (wireless interface technology Bluetooth®);
- **autonomous** (recording data onto the memory card – Holter-type);
- **autonomous-telemetric** (data backup onto the memory card of the patient transceiver-recorder during telemetric registration).

There is an option of making up a sales package for data record from several patients (up to 4), who are in the same intensive care unit (ICU) with a single workstation located on the trolley, which also contains a large monitor that provides simultaneous display of the monitoring data.

Enhanced functionality and application of cerebral function monitor in clinical practice or for scientific research are provided by a basic autonomous transceiver-recorder ABP-5, additional wireless units, modules, sensors and accessories, along with methodical software (SW) from cerebral function monitor "Encephalan-CFM" set.

<table>
<thead>
<tr>
<th>Software name</th>
<th>page</th>
<th>Medical purpose (briefly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Video equipment kit and software EEG-videomonitoring &quot;Encephalan-Video&quot;</td>
<td>17</td>
<td>Completely synchronized recording of EEG and video data in daytime or at night, its analysis and archiving for the differential diagnosis of epilepsy.</td>
</tr>
<tr>
<td>&quot;Encephalan-NM&quot; for neuromonitoring</td>
<td>19</td>
<td>Calculation and visualization of trends of the CNS and VNS physiological parameters in the same time scale for the continuous dynamic monitoring and state assessment.</td>
</tr>
<tr>
<td>&quot;HRV&quot; software for heart rate variability analysis</td>
<td>19</td>
<td>Assessment of autonomic nervous system and neurohumoral regulation of the patient based on a study of heart rate variability to assess the adequacy of the physical and psycho-emotional stress.</td>
</tr>
<tr>
<td>&quot;Encephalan-VLFA&quot; software for analysis of very low frequency activity (patented in RF #2252692)</td>
<td>19</td>
<td>Analysis of very low frequency activity (DC potential) synchronously and simultaneously with the EEG recording from the same derivations for indirect assessment of cerebral energy exchange and reactivity (the dynamics of metabolic changes).</td>
</tr>
<tr>
<td>&quot;Encephalan-AVS&quot; software suite for EEG and EP studies using audiovisual stimulation</td>
<td>20</td>
<td>EEG and EP studies for various clinical and scientific tasks in neurology, psychophysiology, studies of the mechanisms of perception using cognitive stimulation.</td>
</tr>
<tr>
<td>Encephalan-MPA&quot; software for multiparameter analysis of signals from polygraphical channels in combination with EEG signals (patented in RF #2252692)</td>
<td>21</td>
<td>Calculation and visualization of trends, reflecting cardiocycle-to-cardiocycle (in conjunction with the ECG R-wave) dynamics of various physiological indicators of cardiovascular (CVS), autonomic (ANS) and central nervous system (CNS).</td>
</tr>
<tr>
<td>Item</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>1</td>
<td>Sets of patient transceiver-recorder (ABP-5) with Software EEG studies &quot;Encephalan-CFM&quot;</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Additional accessories of cerebral function monitor</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>EEG-electrodes and accessories for cerebral functions monitoring using software &quot;Encephalan-CFM&quot;</td>
<td>9</td>
</tr>
<tr>
<td>4</td>
<td>Wireless Pulseoximeter Module with accessories</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Stimulator SFN/FO-04 for photo-, phono- and electro stimulation with accessories</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td>Video equipment kit and Software for epileptological studies with videomonitoring &quot;Encephalan-Video&quot;</td>
<td>17</td>
</tr>
<tr>
<td>7</td>
<td>Software that extends the functionality of cerebral function monitor (additional equipment and accessories are not required)</td>
<td>19</td>
</tr>
<tr>
<td>8</td>
<td>Units, modules, sensors and accessories for software for additional study types: neuromonitoring, analysis of signals by polygraphic channels, clinical and scientific research</td>
<td>22</td>
</tr>
<tr>
<td>9</td>
<td>Gels, disposable electrodes and accessories</td>
<td>30</td>
</tr>
<tr>
<td>10</td>
<td>Required computing hardware and office equipment</td>
<td>32</td>
</tr>
</tbody>
</table>

*The external appearance of the products is given as an example and may have some differences that do not affect functionality when delivered.*
Cerebral function monitor "Encephalan-CFM"

To form a sales package, select from this table a set of ABP-5, accessories, electrodes, sensors, additional modules and software.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Ref. no.</th>
<th>Description and figure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>A_6442</td>
<td>&quot;Autonomous-Telemetric&quot; set includes:</td>
<td>Select one of ABP-5 equipment sets.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Patient transceiver-recorder ABP-5: 5 channels providing registration of EEG, EOG, ECG, embedded position sensor, integrated telemetric interface (Bluetooth®) for connecting with PC and wireless pulse oximeter module, and additional 4-channel wireless module Poly-4 and module for phono-, photostimulation.</td>
<td>Provides:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Memory card and function of data backup or autonomous data recording with further transmission to PC and analysis.</td>
<td>• telemetric mode with data backup onto the memory card;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Accessories: wireless PC Adapter IB-4 (USB–Bluetooth), calibrator; check lead, USB cable for data transfer.</td>
<td>• autonomous mode with data record onto the memory card.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Operation documentation.</td>
<td>Required:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Software – autonomous-telemetric EEG studies &quot;Encephalan-CFM&quot;, &quot;elite&quot; suite. Software provides long-term dynamic EEG analysis for neurological prognosis for perinatal asphyxia and detection of epileptiform activity in neonatology, for neurophysiological control of ischemic strokes and post-comatose unconsciousness in ICU. Trends of amplitude-integrated EEG (aEEG), 3D representation of compressed spectral array (CSA), density spectral array (DSA), trends of EEG spectral indices, mirror spectrogram, automatic events and patterns classification with function of manual correction, formal reports with quantitative values of recorded phenomena allows identifying and classifying the specific aEEG patterns.</td>
<td>• electrodes and accessories;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Patient data management – &quot;Cardfile&quot;.</td>
<td>• additional wireless units, modules and sensors;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• video equipment kit and software for EEG-videomonitoring;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• computing hardware and office equipment;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• additional software;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Ni-MH AA rechargeable batteries (A_2334) for autonomous mode;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Mains Supply Adapter (A_5346) for telemetric mode.</td>
</tr>
</tbody>
</table>
"Telemetric" set includes:

- **Patient transceiver-recorder ABP-5:** 5 channels providing registration of EEG, EOG, ECG, embedded position sensor, integrated telemetric interface (Bluetooth®) for connecting with PC and wireless pulse oximeter module, and additional 4-channel wireless module Poly-4 and module for phono-, photostimulation.
- **Accessories:** wireless PC Adapter IB-4 (USB–Bluetooth), calibrator, check lead.
- **Operation documentation.**

Software – telemetric EEG studies "Encephalan-CFM ", "elite" suite. Software provides long-term dynamic EEG analysis for neurological prognosis for perinatal asphyxia and detection of epileptiform activity in neonatology, for neurophysiological control of ischemic strokes and post-comatose unconsciousness in ICU. Trends of amplitude-integrated EEG (aEEG), 3D representation of compressed spectral array (CSA), density spectral array (DSA), trends of EEG spectral indices, mirror spectrogram, automatic events and patterns classification with function of manual correction, formal reports with quantitative values of recorded phenomena allows identifying and classifying the specific aEEG patterns.

- **Patient data management – "Cardfile".***

The set does not include:

- memory card;
- function of autonomous data recording onto a memory card and its export to PC;
- USB cable for data transfer.

Required:

- electrodes and accessories;
- additional wireless units, modules and sensors;
- video equipment kit and software for EEG-videomonitoring;
- computing hardware and office equipment;
- additional software;
- Mains Supply Adapter (A_5346).
<table>
<thead>
<tr>
<th>2.</th>
<th>Additional accessories of cerebral function monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td><strong>Memory Card</strong> additional (spare) for patient transceiver-recorder ABP-5 (<em>&quot;Autonomous-Telemetric&quot; set</em>)</td>
</tr>
<tr>
<td></td>
<td>• Type – microSD;</td>
</tr>
<tr>
<td></td>
<td>• class – 4 or higher;</td>
</tr>
<tr>
<td></td>
<td>• recommended manufacturer – SanDisk;</td>
</tr>
<tr>
<td></td>
<td>• capacity – up to 32 GB.</td>
</tr>
<tr>
<td></td>
<td>For autonomous recording of all registered data onto ABP-5 for more than 48 hours.</td>
</tr>
<tr>
<td>2.2</td>
<td><strong>Mains Supply Adapter</strong> for powering from the mains (220V, 50Hz) or USB port.</td>
</tr>
<tr>
<td></td>
<td>For stationary use, alternatively to autonomous powering of patient transceiver-recorder ABP-5 or wireless pulse oximeter module from a rechargeable batteries.</td>
</tr>
<tr>
<td>2.3</td>
<td><strong>Ni-MH AA rechargeable batteries</strong>, low self-discharge (LSD), minimal capacity 2450 mAh, for example Panasonic Eneloop Pro.</td>
</tr>
<tr>
<td></td>
<td>Attention! When used in unattended mode, CFM monitor should be supplied with a charger and rechargeable batteries for a patient transceiver-recorder ABP-5 (1 pcs.), stimulator (2 pcs.), wireless pulse oximeter module (1 pcs.) and Poly-4 module (1 pcs.). It is advisable to purchase a double set.</td>
</tr>
<tr>
<td>2.4</td>
<td><strong>Charger BC-700</strong> Charges 4 rechargeable batteries with control of the charge level and with function of accumulator restoration.</td>
</tr>
<tr>
<td></td>
<td>Allows working with purchased software at any additional client's PC, including network variant with the main workstation of the monitor.</td>
</tr>
<tr>
<td>2.5</td>
<td><strong>SW-key (USB)</strong></td>
</tr>
<tr>
<td></td>
<td>Allows working with purchased software at any additional client's PC, including network variant with the main workstation of the monitor.</td>
</tr>
<tr>
<td>2.6.</td>
<td>A_7478</td>
</tr>
<tr>
<td>2.7.</td>
<td>A_5451</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2.8.</td>
<td>Table support (for fixing patient transceiver-recorder)</td>
</tr>
<tr>
<td>2.8.1.</td>
<td>A_5362-2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Section</td>
<td>Code</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
</tbody>
</table>
| 2.8.2.  | A_5362-1 | **Table support (for fixing patient transceiver-recorder)**  
Patient transceiver-recorder ABP-5 (for ABP-5 only). | At customer’s option.  
Attached with 3M self-adhesive tape for fixing on the horizontal and vertical surfaces. |
| 2.9.    | A_1715 | **Voice Event Marker DCM-32M**  
(specialized digital event marker)  
**The set includes:**  
- battery (type – AAA, 2 pcs., including 1 additional);  
- USB cable. | For recording voice comments (study log) and marking events during study with further synchronization of recorded data with monitoring data. |
| 2.10.   | A_2732 | **Wireless Movement Sensor**  
(for body position)  
**The set includes:**  
- battery (type – AAA, 2 pcs., including 1 additional);  
- chest fixing belt. | Used at continuous monitoring to detect body position – when seating, standing, walking, lying on the side (left or right), prone or on the back, and evaluate patient movement activity. |
### EEG-electrodes and accessories for cerebral functions monitoring using software "Encephalan-CFM"

**From EEG Electrode Set ES-EEG-10/20 "Encephalan-ES"**

**3.1.** **A_2910-5**

<table>
<thead>
<tr>
<th>Set of single EEG electrodes ES-EEG-11/TP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used for low-channel (up to 5 EEG derivations) cerebral functions monitoring with fixing cover caps with eyelets.</td>
</tr>
<tr>
<td>The set includes:</td>
</tr>
<tr>
<td>• set of EEG electrodes (length – 1.2 m) – 7 pcs.;</td>
</tr>
<tr>
<td>• set of Snap Connector Wires for disposable EMG, EOG and ECG electrodes (wires length 1.2 m) – 3 pcs.;</td>
</tr>
<tr>
<td>• set of extension leads for hydrogel electrodes – 3 pcs.</td>
</tr>
</tbody>
</table>

**Required:**
- electrode gel;
- set of fixing cover caps at customer's option;
- ECG (EOG, EMG) electrodes (hydrogel for babies (A_6753) and common disposable for children and adults (A_2714)).

**3.2.** **Set of fixing caps with eyelet holes and covers for them**

**3.2.1.** **A_7408**

<table>
<thead>
<tr>
<th>Set of fixing caps (&quot;Baby&quot;) for neonatology.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The set includes:</td>
</tr>
<tr>
<td>• caps and covers, sizes from 34 to 45 – 5 pcs.;</td>
</tr>
<tr>
<td>• belt for fixing caps to the baby diaper.</td>
</tr>
</tbody>
</table>

**3.2.2.** **A_7409**

<table>
<thead>
<tr>
<th>Set of fixing caps (&quot;Children&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The set includes:</td>
</tr>
<tr>
<td>• caps and covers, sizes from 45 to 55 – 5 pcs.;</td>
</tr>
<tr>
<td>• chest fixing belt.</td>
</tr>
</tbody>
</table>

**3.2.3.** **A_7410**

<table>
<thead>
<tr>
<th>Set of fixing caps (&quot;Adult&quot;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The set includes:</td>
</tr>
<tr>
<td>• caps and covers, sizes from 55 to 66 – 5 pcs.;</td>
</tr>
<tr>
<td>• chest fixing belt.</td>
</tr>
</tbody>
</table>
### 3.3. **A_6753**

**Disposable Electrode (with a cable)**  
(hydrogel, neonatal)

For ECG, EOG, EEG and EMG registration.  
Wire length – 0.5 m.  
3 pcs. in a **pack**.

Used additionally with the set of single EEG electrodes ES-EEG-11/TP (3 pcs. per study) or electrode extension leads set (up to 7 pcs. per study).

### 3.4. **A_6679**

**Electrode extension leads set** with touchproof connectors

For disposable electrodes with short cable (0.5 m) for cerebral functions monitoring.  
Wire length – 0.7 m.  
**The set includes** 7 extension leads.

From "Encephalan-CFM" monitor set  
Used with disposable ECG electrodes (conductor length – 0.5 m).
### 3.5. **A_6434**

**Set of Cup Electrodes** (adhesive type) for EEG registration by 5 derivations

Used for cerebral functions monitoring, continuous EEG monitoring, neuromonitoring.

- Touchproof connector;
- color-coded marking;
- wires length – 1.2 m.

**The set includes:**
- cup adhesive EEG electrodes for EEG, EMG, EOG and ECG – 10 pcs.;
- adhesive plaster Omnifix.

**Required:**
- electrode paste EC2, TEN-20 or similar;
- disposable ECG electrodes;
- fixing bondage elastic (A_6901);
- set of net elastic cover caps of required sizes (A_5018-3, A_5019-3, A_5020-3).

Attachment with glue-collodion is also possible (not recommended for newborns).

### 3.6. **Set of protective elastic fixing cover caps** for adhesive cup electrodes

**3.6.1. A_5018-3**

**Set of protective elastic fixing cover caps, “baby”**

Sizes from 34 to 45 – 5 pcs.

**The set includes** chest belt fixing to a baby diaper.

**3.6.2. A_5019-3**

**Set of protective elastic fixing cover caps, “children”**

Sizes from 45 to 55 – 5 pcs.

**The set includes** protective cap fixer and fixing chest belt.

**3.6.3. A_5020-3**

**Set of protective elastic fixing cover caps, “adult”**

Sizes from 55 to 66 – 5 pcs.

**The set includes** protective cap fixer and fixing chest belt.

**Meant for additional fixation and coverage of adhesive cup electrodes and conductors to them at continuous studies.**

Protective cap x-type fixer can also be fixed to the chest belt of wireless body position sensor.
<table>
<thead>
<tr>
<th>3.6.4.</th>
<th>Chin fixers for elastic cap or cover cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.6.4.1.</td>
<td>A_0497 Chin fixer &quot;adult&quot;</td>
</tr>
<tr>
<td>3.6.4.2.</td>
<td>A_0496 Chin fixer &quot;children&quot;</td>
</tr>
</tbody>
</table>

If necessary, the customer can additionally purchase a chin fixer for fixation of cap or cover cap alternatively to fixing belt and chest belt.
| 4.1. | A_4163-3 | **Wireless Pulseoximeter Module**  
Provides synchronous with EEG recording of patient arterial blood oxygen saturation (SpO2).  
The set includes rechargeable batteries (type – AA, 2 pcs., including 1 additional). | **Used for cerebral functions monitoring and neuromonitoring.**  
Attached with a fixer.  
• SpO₂ sensors set is required. |
| 4.1.1. | **SpO₂ sensors set** |
| 4.1.1.1. | A_4085-05 | **Fingertip SpO₂ sensor RS-3227 (soft small)** |
| 4.1.1.2. | A_4085-03 | **Fingertip SpO₂ sensor RM-3227 (soft medium)** |
| 4.1.1.3. | A_4085-04 | **Fingertip SpO₂ sensor R-3227 (soft large)** |
| 4.1.1.4. | A_4085-06 | **Disposable SpO₂ sensor** – 1 pcs. for continuous monitoring |**Type and quantity at customer's option** |
| 4.1.2. | **A_5346** | **Mains Supply Adapter**  
for powering from the mains (220V, 50Hz) or USB port. | For stationary use, alternatively to autonomous powering of wireless pulse oximeter module from rechargeable batteries. |
| 4.1.3. | **A_4820** | **Table support** (fixer)  
The set includes 3M self-adhesive tape. | Recommended for stationary use of the module near the patient.  
Attached with 3M self-adhesive tape for fixing on the horizontal and vertical surfaces. |
| 5.1. | A_2624 | **Autonomous stimulator SFN/FO-04** with integrated LED matrix. Used for photo-, phono- and electro stimulation functional tests for assessment of reactivity in ICU and resuscitation department.  
**The set includes** rechargeable batteries (type – AA, 4 pcs., including 2 additional). | Should be additionally supplied with:  
- headphones for phonostimulation;  
- wireless electrostimulator;  
- LED tube for photostimulation;  
- mains supply adapter. |
| 5.1. | A_5447-1 | **Mains supply adapter**  
For stimulator powering from the mains (220V, 50Hz) or USB port. | For stationary use, alternatively to autonomous powering from rechargeable batteries. |
| 5.1. | A_3149 | **Calibrated Headphones**  
For phonostimulation  
Connected to the Stimulator SFN/FO-04. Used at EEG and auditory EP studies  
Cannot be used without SFN/FO-04. | For phonostimulation  
Connected to the Stimulator SFN/FO-04. Used at EEG and auditory EP studies  
Cannot be used without SFN/FO-04. |
| 5.1. | A_2940 | **LED Tube FO-06 TD (children)**  
Fixed with elastic cap for electrode system or cover cap for adhesive cup EEG electrodes. | For photostimulation  
Connected to the Stimulator SFN/FO-04. If the LED tube is used, the LEDs matrix in the stimulator SFN/FO-04 is disabled.  
Cannot be used without SFN/FO-04. |
| 5.1. | A_3072 | **LED Tube FO-06 TV (adults)**  
Fixed with elastic cap for electrode system or cover cap for adhesive cup EEG electrodes. | For photostimulation  
Connected to the Stimulator SFN/FO-04. If the LED tube is used, the LEDs matrix in the stimulator SFN/FO-04 is disabled.  
Cannot be used without SFN/FO-04. |
### 5.1.5. A_2991

**LED goggles FO-03 (photostimulator)**

For flash visual EP studies.

Allows changing flash intensity separately for the left and right eye.

For photostimulation

Connected to the Stimulator SFN/FO-04. If the LED tube is used, the LEDs matrix in the stimulator SFN/FO-04 is disabled.

Cannot be used without SFN/FO-04.

### 5.1.6. A_4008

**Wireless Electrostimulator for somatosensory stimulation**

The set includes:

- strap fixer;
- battery (type – AAA, 4 pcs., including 2 additional).

Used for assessment of reactivity in ICU and resuscitation department, as well as in long-latency somatosensory EP-studies (if the software “Encephalan-EP” is purchased).

Cannot be used without SFN/FO-04.
6. Video equipment kit and Software for epileptological studies with videomonitoring "Encephalan-Video"

6.1. The kit is used for continuous synchronized videomonitoring for CFM monitoring and neuromonitoring.

The kit includes adapted Software for epileptological studies with videomonitoring "Encephalan-video". Software provides continuous synchronized EEG and video data recording, analysis and storage. Includes option of short video clip preparation (AVI format) for demonstration of pathological manifestations.

Specialized "EEG Viewer" application allows viewing specified EEG fragments and video data on doctor's PC (onto CD/DVD discs or other storage devices) using main functions of visual EEG analysis.

Video cameras may be replaced with similar ones with the same characteristics without prior notice.

6.1.1. **A_2310-42** Mobile Basic Economic kit (day-night)

The kit includes:

- fixed digital HD video camera with built-in IR backlight and patient's microphone;
- power injector for the camcorder with a set of cables;
- Software for epileptological studies with videomonitoring "Encephalan-Video".

- Sensitivity – 0.07 lx @ F1.2;
- day-night mode – a mechanical IR-cut filter;
- resolution 1920x1080, 1280x720, 704x576;
- frame rate – 25 fps;
- built-in IR illumination;
- powering – 220 V (via injector);
- built-in microphone.

At customer's option

6.1.1.1. **A_2811** Portable stand for camera
### 6.1.2. A_8233

**A clip for camera fixation**

- Fixed on suitable objects of the surroundings
- At customer's option

### 6.1.2. A_2310-33

**Mobile basic advanced kit (day-night)**

- The kit includes:
  - advanced digital HD video camera with night mode – optical Zoom, rotator, built-in IR backlight for night mode and patient’s microphone;
  - video camera network controller (mobile);
  - power injector for the camcorder with a set of cables;
  - portable stand for camera;
  - Software for epileptological studies with videomonitoring "Encephalan-Video".

- • Optical zoom – 4x;
- • digital zoom – 16x;
- • day-night modes – Auto (ICR) / colour / black and white;
- • resolution 1920x1080, 1280x720, 704x576;
- • frame rate – 25 fps;
- • built-in IR illumination;
- • powering – 220 V (via injector);
- • built-in microphone.

### 6.2. Additional accessories to video equipment kits:

<table>
<thead>
<tr>
<th>6.2.1. A_6396</th>
<th>IR-lamp for quality video recording in darkness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides soft IR light reflected from walls and ceiling.</td>
<td></td>
</tr>
<tr>
<td>It can be placed anywhere in the room, without reference to other elements of the EEG-video monitoring kit.</td>
<td></td>
</tr>
<tr>
<td>It has an independent mains power supply 220.</td>
<td></td>
</tr>
</tbody>
</table>
### Software that extends the functionality of cerebral function monitor

| 7. | **A_0803-1** | **"Encephalan-NM" Software for Neuromonitoring**

Software provides calculation and visualization of trends (duration of averaged parameters time quantum can be set in the range from 10 to 300 s) of different physiological parameters (if corresponding sensors and devices are present), CNS (amplitude and spectral EEG parameters, DCp values), ANS and cardiorespiratory system (respiration parameters, galvanic-skin response, heart rate, temperature, tonus of muscles and vessels, oxygen saturation SpO2, oculomotor manifestations, etc.), movement activity and body position changing in unified time scale in long multiparametric monitoring.

Software gives an information in digital and graph form for long-term dynamic monitoring and evaluation of the patient’s state in ICU and can be used at clinical and scientific research.

Trends are based on the signals recorded by means of electrodes for EEG registration, sensors of Poly-4 and wireless pulse oximeter modules from the illustrated catalogue.

### 7.2 | **A_1964** | **"HRV" Software for Heart Rate Variability Analysis**

Software is used to evaluate the adequacy of physical and psycho-emotional stress taking into account the autonomic reactivity to a provoking effect, as well as to control the effect of medicinal drugs and efficiency of treatment prescribed.

Software uses standard recommended types of quantitative analysis and results representation in the form of cardiointervalogram trends (HR, RR), statistical and spectral parameters, histograms and scattergrams (correlation rhythmograms) of RR-intervals allocation, spectrograms with frequency ranges that characterize the state of ANS and balance of sympathetic and parasympathetic sections (HF, LF, VLF). There is an option of forming the formalized protocol with initial state description and autonomic reactivity. Software allows analyzing selected fragments of continuous ECG records (24 hrs, night recording) at long-term EEG studies.

Software is used to assess the state of the autonomic nervous system and neurohumoral regulation of the patient. It can be used both independently (optional study type) and as additional analysis to CFM monitoring.

Requires purchasing ECG cable (A_4740) if it is not included into delivery set.

### 7.3 | **A_0836** | **"Encephalan-VLFA" Software for Analysis of Very Low Frequency Activity** *(patented in RF #2252692)*

Software additionally provides analyzing of very slow EEG responses simultaneously with recording of EEG by the same derivations. Dynamic trends of very slow potentials and topographic maps of instantaneous values and reactive shifts of the DC-potentials level to functional tests or functional stresses at continuous EEG studies carried out allow a doctor or experimentalist-researcher to use obtained information for indirect evaluation of cerebral energy exchange and reactivity (metabolic change dynamics) and match it with EEG studies results and indices of cardiovascular system, CNS and ANS (if corresponding sensors and wireless devices are available). For scientific and clinical research.

DC-potentials are registered with ABP-5 (up to 5 EEG derivations) with electrodes for EEG registration.
7. **A_0500**


Software generates specified stimulation scenarios of different modality, records and analyzes long-latency and cognitive EP for objective analysis of corresponding analyzers’ state and highest cognitive functions to diagnose and treat pathologies of central character.

The stimulating devices from the stimulator SFN/FO-04 set are required depending on the selected EP study. Cognitive EPs require a button sensor.

Not applied for newborns.

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7.4. **A_4009**

**Patient Button Unit (five button response pad)**

For detecting patient's response (pressing the specified button, 5 buttons) on presented stimulus while using the "Encephalan-AVS" Software.

The set includes battery (type – AAA, 4 pcs., including 2 additional).

Required for study of cognitive (CNV and P300, MMN) EP, and for EEG and EP studies with audio-visual stimulation.

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7.5. **A_0712**


Software provides flexible forming and playback of scenarios of cognitive stimulation using graphic images, audio files and text information as stimuli.

Images can be of tiff, jpg, bmp, gif formats with any resolution, including FullHD; audio files – formats wav, mp3; text information can be customized by font color and size, background color, and area of visualization on the screen.

**Option of unconscious stimuli presentation** with direct and inverse masking with control of responses (latent periods of button pressing).

**Accurate synchronization** of presented stimuli and recorded physiological signals (EEG, EP), which allows carrying out EEG and EP studies to solve different clinical and scientific tasks in neurology, psychophysiology, studies of perception mechanisms, etc.

Application is possible in children and adults in the ICU and intensive care units for the assessment of cognitive functions.

**Required:**
- additional monitor for stimuli presentation;
- patient button unit and sensor of videostimulus synchronization.
| 7.5.1. | A_4178 | Videostimulus synchronization sensor  
Provides accurate detection of videostimulus presentation moment. |
| 7.6. | A_0803 | “Encephalan-MPA” software for multiparameter analysis of signals from polygraphical channels in combination with EEG signals (patented in RF #2252692)  
Software provides calculation and visualization of trends which display beat-by-beat dynamics (dynamics of indices from cardio cycle to cardio cycle) of different physiological parameters of cardiovascular (CVS), autonomic (ANS) and central nervous system (CNS) in unified time scale which provides visual evaluation of the interrelations (signals from the list (if corresponding sensors are purchased): EEG, EOG, EMG, ECG, RespEff, SpO2, Rheo-CHD, REG, PPG, temperature, movement activity, etc.).  
Software allows analyzing recorded physiological signals, evaluating physiological shifts in response to provoking actions to detect weak and compensatory links in the systems of the body. Software allows carrying out statistical and spectral analysis, building histograms or scattergrams of selected quantitative parameters distribution by the specified study fragments, as well as generating automatic report with formalized results description and table data illustrating initial state and significant changes caused by functional tests.  
Analysis is performed by signals recorded by means of EEG electrodes, sensor to Poly-4 module and wireless pulse oximeter module. Electrodes, sensors, wireless units and modules are required. |
### 8. Units, modules, sensors and accessories for software for additional study types:
neuromonitoring, analysis of signals by polygraphic channels, clinical and scientific research

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| **8.1.** | **A_5359** | **Poly-4 Wireless Module** | **Required (depending on application):**
Provides synchronous with EEG registration of signals via 4 polygraphic channels at CFM monitoring, neuromonitoring, scientific research, etc.

**The set includes:**
- rechargeable batteries (type – AA, 2 pcs., including 1 additional);
- N-electrode cable.

Poly-4 module in a **constant potential measurement** mode can provide data input by 4 channels.

**Two Poly-4 modules** can be used within one set of CFM monitor.

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</table>
| **8.1.1.** | **A_7511** | **Table support (fixer)** | **Recommended for stationary use of the module near the patient.**
The set includes 3M self-adhesive tape.

Attached with 3M self-adhesive tape for fixing on the horizontal and vertical surfaces.

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</table>
| **8.1.2.** | **A_4731** | **Simulator** | **At customer's option**
Meant for technical verification of workability of Poly-4 module channels, as well as to check the connection between the Poly-4 module and the base transceiver-recorder ABP-5.
<table>
<thead>
<tr>
<th>Section</th>
<th>Code</th>
<th>Description</th>
<th>Additional Information</th>
</tr>
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<tbody>
<tr>
<td>8.1.3.</td>
<td>A_5346</td>
<td><strong>Mains Power Supply Adapter</strong>&lt;br&gt;Connected to a mains (220V, 50Hz) or USB port of computer equipment.</td>
<td>For stationary use, alternatively to autonomous powering of Poly-4 module from accumulators.</td>
</tr>
<tr>
<td>8.2.</td>
<td></td>
<td><strong>Set of electrodes, sensors and accessories for Poly-4 module</strong></td>
<td></td>
</tr>
<tr>
<td>8.2.1.</td>
<td>A_5364</td>
<td><strong>Electrodes, Sensors and Accessories Set for Poly-4 wireless module</strong>&lt;br&gt;(movement activity registration)&lt;br&gt;The set includes:&lt;br&gt;• wired movement sensor (1.85m length) – 2 pcs.;&lt;br&gt;• cable for 2 EMG derivations (1.85m length) – 2 pcs.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Disposable ECG electrodes</strong> (for EMG registration) are required.</td>
<td></td>
</tr>
<tr>
<td>8.2.1.1.</td>
<td>A_5117</td>
<td><strong>Wet Sensor</strong>&lt;br&gt;To identify the cases of incontinence during studies.</td>
<td>Additionally to the electrode sets, sensors and accessories of Poly-4 module. Fixed to underwear by sanitary pad (placed into the cut).</td>
</tr>
</tbody>
</table>
### 8.3. **PG-ECG Connector**

Used for cardiorespiratory monitoring, provides synchronous with the EEG recording of ECG parameters by 3 channels and impedance-based pneumogram via 1 channel for visual analysis of cardiorespiratory disorders during studies.

For convenient attachment the conductors of the electrodes have different lengths – from 0.75 to 1 m.

Disposable ECG electrodes (takes 7 pcs. a study) are **required**.

### 8.4. **Tetrapolar ICG Adapter (RT) for ICG by Shramek**

For evaluation of central hemodynamics and heart’s pumping ability parameters by Shramek. If used with RB, simultaneously evaluates brain impedance plethysmography and CHD.

Connected to polygraphic channels of ABP-5 or Poly-4.

Cable length – 0.4 m.

For system analysis of hemodynamics with the software “Encephalan-MPA”. Accessories for RT adapter are **required**.

### 8.4.1. **Accessories and Electrodes Set for ICG Adapter RT**

Records ICG by Shramek.

Cable length – 1.5 m.

**Consists of** rheographic cables of "Y-type", 4 pcs.

Disposable ECG electrodes are **required**.
Bipolar ICG Adapter (RB) for brain impedance plethysmography, rheovasography (RVG) and integral rheogram by Tischenko

For evaluation of cerebral (brain impedance plethysmography) and peripheral (RVG) blood circulation, which characterizes pulse blood filling, variable diameter vessels tone and venous drainage state, as well as for evaluation of central hemodynamics parameters and heart’s pumping ability by Tischenko integral rheogram (stroke/minute volume, stroke and cardiac index, etc).

Connected to polygraphic channels of ABP-5 or Poly-4.

Cable length – 0.4 m.

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Accessories and Electrodes Set for ICG Adapter RB

Allows recording brain impedance plethysmography, RVG and ICG by Tischenko using RB.

Includes:

- rheographic cable “Y-type” (length – 1.5 m) – 2 pcs.;
- set of electrode cables (length – 1.5 m) – 2 pcs.;
- REG Electrode with a snap connector – 2 pcs.;
- ribbon electrode (length – 0.4 m) – 4 pcs.;
- REG electrodes fixing ribbon.

Thoracic and abdominal breathing registration requires 2 respiratory effort sensors.
<table>
<thead>
<tr>
<th>No.</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| 8.6.1| A_7350 | **Small additional belt for respiratory effort sensor.**  
For chest circumference of 40-80cm. |
| 8.7  | A_2326-1 | **Oro-Nasal Airflow Sensor** (Thermistor “T-Flow”)  
For evaluation of parameters of oro-nasal respiration (breathing rate and amplitude, duration of in- and exhalation phases) and detection of breathing disorders.  
Can be used with respiratory airflow sensor cannula.  
Cable length – 1.25 m. |
| 8.8  | A_1869 | **Snore Sensor** (“Snore”)  
For detection and quantitative evaluation of snoring during sleep.  
Cable length – 1.2 m. |
| 8.9  | A_4141-2 | **Photoplethysmogram (PPG) Sensor**  
For evaluation of parameters of peripheral blood circulation which characterize pulse blood filling and tone of variable diameter vessels.  
Cable length – 1.2 m.  
The set includes:  
• finger cuff;  
• sensor fixer "ear clip". |
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</thead>
<tbody>
<tr>
<td><strong>8.10. A_4139</strong></td>
<td><strong>Temperature Sensor</strong></td>
<td>For evaluation of skin surface temperature in selected body area. Cable length – 1.2 m.</td>
<td></td>
</tr>
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<td>Additional sensors at customers’ option for various applications.</td>
</tr>
<tr>
<td><strong>8.11. A_4142</strong></td>
<td><strong>Envelope EMG Sensor (double)</strong></td>
<td>For evaluation of tone of selected muscle basing on envelope EMG measurement. Cable length – 1.2 m.</td>
<td></td>
</tr>
<tr>
<td><strong>8.12. A_5731</strong></td>
<td><strong>Envelope EMG sensor (triple)</strong></td>
<td>For evaluation of tone of selected muscle basing on envelope EMG measurement. Cable length – 1.2 m.</td>
<td></td>
</tr>
<tr>
<td><strong>8.13. A_4143</strong></td>
<td><strong>GSR Sensor</strong></td>
<td>For evaluation of vegetative manifestations and emotional stress basing on the measurement of GSR phase component. Cable length – 1.2 m.</td>
<td></td>
</tr>
</tbody>
</table>
| 8.14. | A_5119 | **Skin Conductance Sensor** (EDA-ElectroDermal Activity)  
For evaluation of vegetative manifestations and emotional stress basing on the measurement of phase and tonic components of skin conductance.  
Cable length – 1.2 m. | Additional sensors at customers’ option for various applications. |
| 8.15. | Movement sensor (Move) wired |
| 8.15.1. | A_5361 | **Movement sensor (Move) wired** 1.2 m long. |
| 8.15.2. | A_5361-1 | **Movement sensor (Move) wired** 2 m long. |
| 8.16. | A_4740 | **ECG Cable** for bipolar derivation with neutral electrode  
3 snaps for disposable electrodes.  
Cable length – 1.5 m. | Used for:  
- heart variability analysis (software “HRV”);  
- record under stationary conditions.  
- Disposable ECG electrodes are **required**. |
| 8.17. | A_3294 | **3-electrode cable EMG/EDA**  
3 snaps for disposable electrodes.  
Cable length – 1.85 m. | To register surface EMG/EDA.  
Disposable ECG electrodes are **required**. |
| 8.18. | A_3817 | **Cable for Disposable N Electrode**  
Cable length – 1.2 m. |
| 8.19. | **Bipolar Cable for EMG/SP Channels**  
The cable contains 2 recording snap electrodes, there is no neutral electrode. Can be applied for EOG registration.  
For disposable electrodes. |
| 8.19.1. | A_4194 | **Bipolar Cable** 1.45 m long |
| 8.19.2. | A_4194-1 | **Bipolar Cable** 1.85 m long  
Meant for registration of legs movement. |

Used with N-electrode attached onto the patient and connected to the same registration unit to which these cables can be connected to.
<table>
<thead>
<tr>
<th>9.</th>
<th><strong>Gels, disposable electrodes and accessories</strong></th>
</tr>
</thead>
</table>
| **9.1.** | **A_2669** | **Ten20 Conductive Paste**  
For adhesive cup electrodes (114 g). |
| **9.2.** | **A_6532** | **Electrode Cream EC-2 or similar**  
For adhesive cup electrodes (100 g). |
| **9.3.** | **Electrode gel**  
- for cup EEG electrodes for contact electrode gel;  
- for EEG electrodes from removable electrode systems with fixing EEG electrodes in eyelets. |
| **9.3.1.** | **A_1854** | **Electrode gel**  
250 ml bottle |
| **9.3.2.** | **A_1854-1** | **Electrode gel**  
1 L bottle |
| **9.4.** | **A_1302** | **Adhesive plaster (OMNIFIX elastic or similar)**  
To fix electrodes and sensors.  
Dimensions 10 m x 5 cm.  
Recommended for adhesive EEG electrodes (with EC2, TEN-20 or similar paste) in order to preliminary fix the electrodes before collodion gluing at neuromonitoring. |
<table>
<thead>
<tr>
<th>9.5</th>
<th>A_6901</th>
<th>Fixing bondage elastic Peha-haft, self-fixing</th>
<th>It is recommended to fix the wires and sensors on the legs and arms at continuous studies, as well as to fix the adhesive electrodes in neonatology at the CFM study.</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.6</td>
<td>A_2714</td>
<td>Disposable snap ECG Electrode (for EOG, EMG)</td>
<td>50 pcs. in 1 pack.</td>
</tr>
</tbody>
</table>
10. Required computing hardware and office equipment

10.1. Real Time Work Station
Software of cerebral function monitor is installed on the computer in accordance with selected sales package.

10.1.1. A_2380 Real Time Work Station (Portable Computer).
One additional monitor is connected.

10.1.2. A_2380-1 Real Time Work Station (Portable Computer).
Two additional monitors are connected.

10.1.3. A_4305 Real Time Work Station (Stationary Computer).
One or two additional monitors are connected.

10.1.4. A_4305-1 Real Time Work Station (all-in-one desktop computer).

Configuration and characteristics are approximate and should be specified when order.

Minimal requirements:
• Intel Core i5;
• RAM 4GB;
• HDD 500GB;
• monitor 15";
• OS Windows 10.

If the customer requires and is able to purchase the improved characteristics of CFM monitor, inform the manufacturer about it; advanced characteristics should be approved by the manufacturer.
10.2. Additional computer – Data Analysis and Storage Station
Software of cerebral function monitor is installed on the computer in accordance with selected sales package.

<table>
<thead>
<tr>
<th>10.2.1. A_4309</th>
<th>Additional computer – Data Analysis and Storage Station (Portable Computer).</th>
<th>One additional monitor is connected.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.2.2. A_4309-1</td>
<td>Additional computer – Data Analysis and Storage Station (Portable Computer).</td>
<td>Two additional monitors are connected.</td>
</tr>
<tr>
<td>10.2.3. A_4308</td>
<td>Additional computer – Data Analysis and Storage Station (Stationary Computer).</td>
<td>One or two additional monitors are connected.</td>
</tr>
<tr>
<td>10.2.4. A_4308-1</td>
<td>Additional computer – Data Analysis and Storage Station (all-in-one desktop computer).</td>
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</tbody>
</table>

Configuration and characteristics are approximate and should be specified when order.

SW-key (USB) is required.
Minimal requirements:
- Intel Core i5;
- RAM 4GB;
- HDD 500GB;
- monitor 15”;
- OS Windows 10.

If the customer requires and is able to purchase the improved characteristics of CFM monitor, inform the manufacturer about it: advanced characteristics should be approved by the manufacturer.
### 10.3. Additional accessories and software for Real Time Work Station and Data Analysis and Storage Station

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<tbody>
<tr>
<td>10.3.1.</td>
<td>A_6843</td>
<td>Mobile HDD 1000 GB</td>
</tr>
<tr>
<td>10.3.2.</td>
<td>A_5109</td>
<td>Antivirus application &quot;Kaspersky Internet Security&quot;. Recommended to protect PC from viruses</td>
</tr>
<tr>
<td>10.3.3.</td>
<td>A_4319</td>
<td>MS Office ENG. Recommended to be installed at PC. Required package contains Word and Excel</td>
</tr>
<tr>
<td>10.3.4.</td>
<td>A_2604</td>
<td>Bag for laptop transportation</td>
</tr>
<tr>
<td>10.3.5.</td>
<td>A_4299</td>
<td>Uninterruptible power supply</td>
</tr>
</tbody>
</table>

### 10.4. Additional Monitor

- minimal diagonal 23”;
- resolution 1920x1080;
- aspect ratio 16x9.

The monitor can be used with any of the computers (real-time work stations and data analysis and storage stations). Monitor is required if the following software is present in sales package:

- "Encephalan-AVS";
- "Encephalan-EP".

### 10.5. Digital widescreen TV-set

Recommended for a system of 4 CFM monitors.

to display information from 4 CFM monitors.
10.6. A_3750 Electronic tablet

OS Windows 10. Required for operational control of data record.

10.7. A_4087 Printer
Laser Black-And-White A4 format

Another printer type supply – by agreement.

10.8. A_4088 Equipment Trolley

Equipment Trolley is adapted according to the computer and office equipment from the sales package.

10.9. A_4088-4 Equipment Trolley
with a drawer