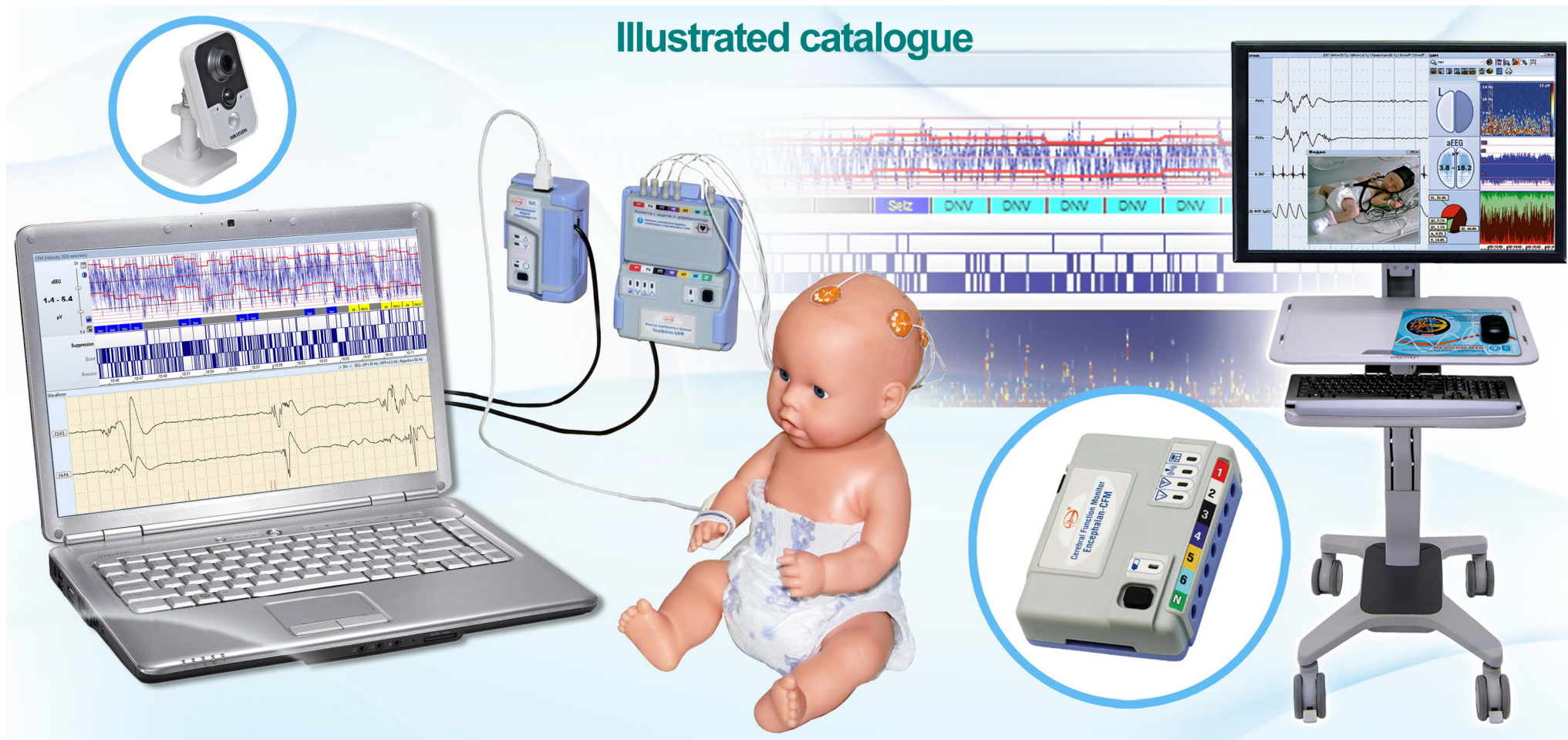


# Cerebral function monitor "Encephalan-CFM"

## Illustrated catalogue



**MEDICOM MTD**

Taganrog, Rostov region, Russia, 347900,  
68 Frunze Str. – production postal address,  
99 Petrovskaya Str. – legal address

[www.medicom-mtd.com](http://www.medicom-mtd.com)

Phones: +7 (8634) 62-62-42, 62-62-43,  
62-62-44, 62-62-45, 38-34-67

Fax: +7 (8634) 61-54-05 (24 hours)

e-mail: [office@medicom-mtd.com](mailto:office@medicom-mtd.com)

Service e-mail: [service@medicom-mtd.com](mailto:service@medicom-mtd.com)

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## Cerebral function monitor "Encephalan-CFM" for use in neonatology.

- **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:

- **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.


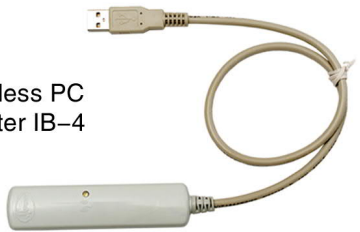




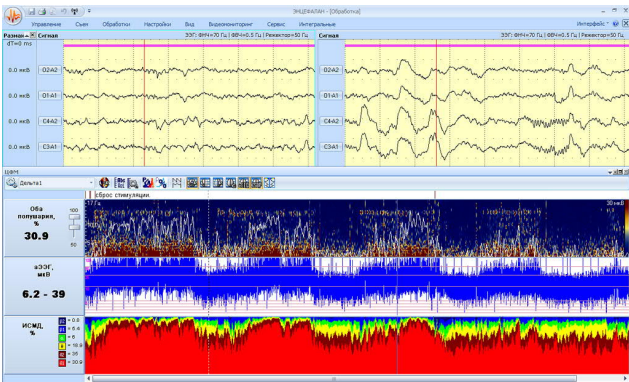
Enhanced functionality and application of cerebral function monitor in clinical practice or for scientific research are provided by a basic autonomous transceiver-recorder ABP-5, additional wireless units, modules, sensors and accessories, along with methodical software (SW) from cerebral function monitor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

### Software from the CFM monitor set






Software name	page	Medical purpose (briefly)
"Encephalan-NM" for neuromonitoring	11	Calculation and visualization of trends of the CNS and VNS physiological parameters and SpO <sub>2</sub> in the same time scale for the continuous dynamic monitoring and state assessment.
"Encephalan-VLFA" software for analysis of very low frequency activity* (patented in RF #2252692)	11	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).
Video equipment kit and software EEG-videomonitoring "Encephalan-Video"	12	Completely synchronized recording of EEG and video data in daytime or at night, its analysis and archiving for the differential diagnosis of epilepsy.

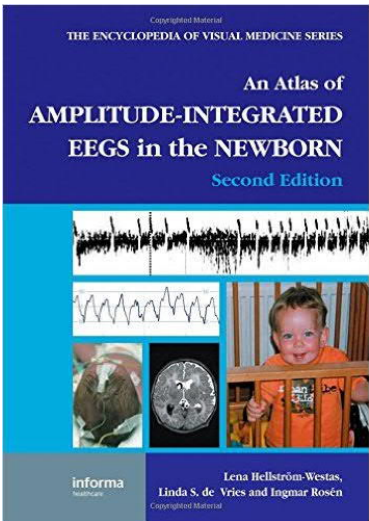

item	Contents of the illustrated* catalogue	page
1	Sets of patient transceiver-recorder (ABP-5) with Software EEG studies "Encephalan-CFM" .....	3
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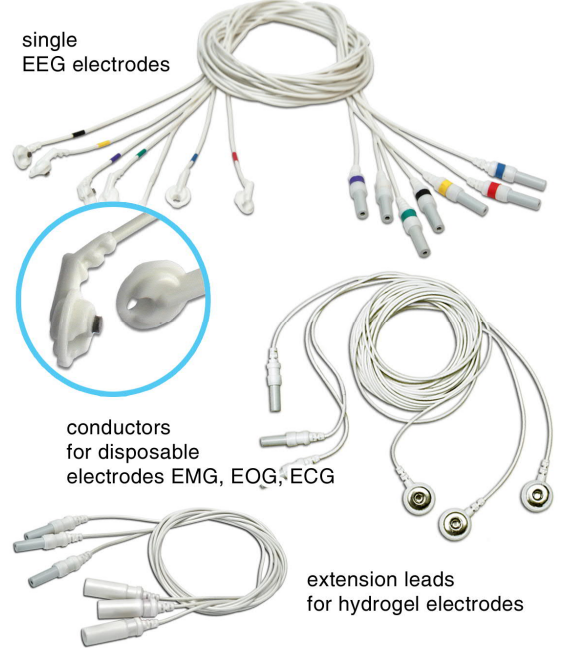
\* The external appearance of the products is given as an example and may have some differences that do not affect functionality when delivered.



Item #	Ref. no.	Description and figure	Comments
<h2 style="text-align: center;">Cerebral function monitor "Encephalan-CFM"</h2> <p style="text-align: center;">To form a sales package, select from this table a set of ABP-5, accessories, electrodes, sensors, additional modules and software for use in neonatology</p>			
1.	<b>Sets of patient transceiver-recorder (ABP-5) with Software EEG studies "Encephalan-CFM"</b>		Select one of ABP-5 equipment sets.
1.1	A_6442	<p><b>"Autonomous-Telemetric" set includes:</b></p> <ul style="list-style-type: none"> <li>• <b>Patient transceiver-recorder ABP-5:</b> 5 channels providing registration of EEG, EOG, ECG, embedded position sensor, integrated telemetric interface (Bluetooth®) for connecting with PC and wireless pulse oximeter module,</li> <li>• <b>Memory card and function of data backup or autonomous data recording</b> with further transmission to PC and analysis.</li> <li>• <b>Accessories:</b> wireless PC Adapter IB-4 (USB–Bluetooth), calibrator; check lead, USB cable for data transfer.</li> <li>• <b>Operation documentation.</b></li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Patient transceiver-recorder (ABP-5)</p> </div> <div style="text-align: center;">  <p>Wireless PC Adapter IB-4</p> </div> <div style="text-align: center;">  <p>Data cable</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Calibrator</p> </div> <div style="text-align: center;">  <p>Check lead</p> </div> <div style="text-align: center;">  <p>Memory card</p> </div> </div> <p>• <b>Software – autonomous-telemetric EEG studies "Encephalan-CFM", "elite" suite.</b> 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), presentation 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.</p> <p>• <b>Patient data management – "Cardfile".</b></p> <div style="text-align: right;">  </div>	<p><b>Provides:</b></p> <ul style="list-style-type: none"> <li>• telemetric mode with data backup onto the memory card;</li> <li>• autonomous mode with data record onto the memory card.</li> </ul> <p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• electrodes and accessories;</li> <li>• additional wireless units, modules and sensors;</li> <li>• video equipment kit and software for EEG-videomonitoring;</li> <li>• computing hardware and office equipment;</li> <li>• additional software;</li> <li>• Ni-MH AA rechargeable batteries (A_2334) for autonomous mode;</li> <li>• Mains Supply Adapter (A_5346) for telemetric mode.</li> </ul>





2.	Additional accessories of cerebral function monitor			
2.1.	A_2143	<p><b>Memory Card</b> additional (spare) for patient transceiver-recorder ABP-5 ("Autonomous-Telemetric" set)</p> <ul style="list-style-type: none"> <li>• Type – microSD;</li> <li>• class – 4 or higher;</li> <li>• recommended manufacturer – SanDisk;</li> <li>• capacity – up to 32 GB.</li> </ul>		<p>For autonomous recording of all registered data onto ABP-5 for more than 48 hours.</p>
2.2.	A_5346-1	<p><b>Mains Supply Adapter</b></p> <p>for powering from the mains (220V, 50Hz) or USB port.</p> <p>Connected to a mains (220V, 50Hz) or USB port of computer equipment</p> <p><b>Include:</b></p> <ul style="list-style-type: none"> <li>• Mains Supply Adapter (A_7129)</li> <li>• USB Power Supply Adapter (A_5360)</li> </ul>		<p><b>For stationary use,</b> alternatively to autonomous powering of patient transceiver-recorder ABP-5 or wireless pulse oximeter module from a rechargeable batteries.</p>
2.3.	A_2334	<p><b>Ni-MH AA rechargeable batteries</b>, low self-discharge (LSD), minimal capacity 2450 mAh, for example Panasonic Eneloop Pro.</p>		<p><b>Attention! When used in unattended mode, CFM monitor should be supplied with a charger and rechargeable batteries</b> for a patient transceiver-recorder ABP-5 (1 pcs.), stimulator (2 pcs.), wireless pulse oximeter module (1 pcs.) and Poly-4 module (1 pcs.).</p>
2.4.	A_2894	<p><b>Charger BC-700</b></p> <p>Charges 4 rechargeable batteries with control of the charge level and with function of accumulator restoration.</p>		<p><b>It is advisable to purchase a double set.</b></p>
2.5.	A_2329	<p><b>SW-key (USB)</b></p>		<p>Allows working with purchased software at any additional client's PC, including network variant with the main workstation of the monitor.</p>

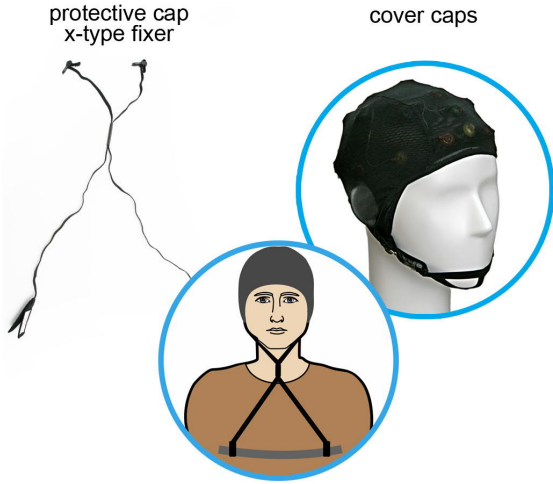


2.6.	A_7478	<b>Atlas of amplitude-integrated EEG in the newborns</b>		The text of the Atlas in English
2.7.	A_5451	<b>Defibrillation Proof Connector</b> for connection up to 7 electrodes with touchproof connectors (including depth, adhesive cup or cortical EEG electrodes) to ABP-5.		<b>Protects the equipment and the patient</b> from the possible effects of electric current at CPR.
2.8.	<b>Table support</b> (for fixing patient transceiver-recorder)			
2.8.1.	A_5362-2	<b>Table support (for fixing patient transceiver-recorder)</b> Patient transceiver-recorder ABP-5 with defibrillation proof connector. The set includes 3M self-adhesive tape.		<b>At customer's option.</b> Attached with 3M self-adhesive tape for fixing on the horizontal and vertical surfaces.


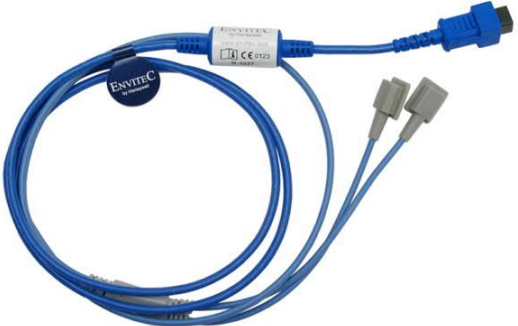


2.8.2.	A_5362-1	<b>Table support (for fixing patient transceiver-recorder)</b> Patient transceiver-recorder ABP-5 (for ABP-5 only).		<b>At customer's option.</b> Attached with 3M self-adhesive tape for fixing on the horizontal and vertical surfaces.
<b>EEG-electrodes and accessories for cerebral functions monitoring using software "Encephalan-CFM"</b>				From EEG Electrode Set ES-EEG-10/20 "Encephalan-ES"
3.1.	A_2910-5	<b>Set of single EEG electrodes ES-EEG-11/TP</b> Used for low-channel (up to 5 EEG derivations) cerebral functions monitoring with fixing cover caps with eyelets. <b>The set includes:</b> <ul style="list-style-type: none"> <li>• set of EEG electrodes (length – 1.2 m) – 7 pcs.;</li> <li>• set of Snap Connector Wires for disposable EMG, EOG and ECG electrodes (wires length 1.2 m) – 3 pcs.;</li> <li>• set of extension leads for hydrogel electrodes – 3 pcs.</li> </ul>	 <p>single EEG electrodes</p> <p>conductors for disposable electrodes EMG, EOG, ECG</p> <p>extension leads for hydrogel electrodes</p>	<b>Used for low-channel (up to 5 EEG derivations) EEG studies for cerebral functions monitoring.</b> Electrodes are attached into fixing cover caps (elastic net) with eyelets. <b>Required:</b> <ul style="list-style-type: none"> <li>• electrode gel;</li> <li>• set of fixing cover-caps at customer's option;</li> <li>• ECG (EOG, EMG) electrodes (hydrogel for babies (A_6753) and common disposable for children and adults (A_2714)).</li> </ul>

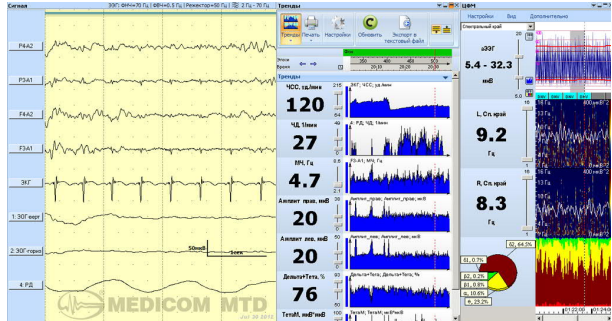
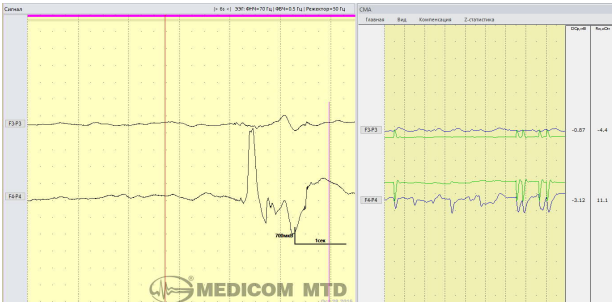
3.2.	A_7408	<p><b>Set of fixing caps ("Baby") for neonatology</b></p> <p><b>The set includes:</b></p> <ul style="list-style-type: none"> <li>caps and covers, sizes <b>from 34 to 45</b> – 5 pcs. (sizes 28 and 31– optionally);</li> <li>belt for fixing caps to the baby diaper.</li> </ul>		<p>Type and quantity at customer's option.</p>
3.3.	A_6753	<p><b>Disposable Electrode (with a cable)</b> (hydrogel, neonatal)</p> <p>For ECG, EOG, EEG and EMG registration.</p> <p>Wire length – 0.5 m.</p> <p>3 pcs. in a <b>pack</b>.</p>		<p>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).</p>

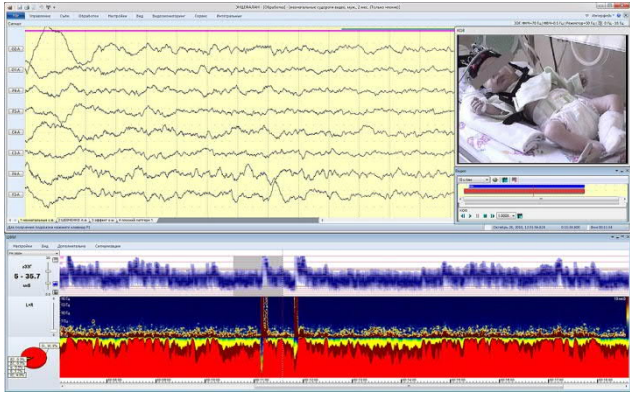
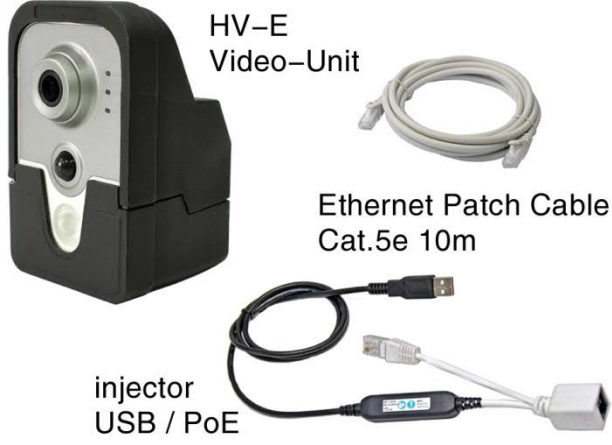

3.4.	A_6679	<p><b>Electrode extension leads set</b> with touchproof connectors</p> <p>For disposable electrodes with short cable (0.5 m) for cerebral functions monitoring.</p> <p>Wire length – 0.7 m.</p> <p><b>The set includes</b> 7 extension leads.</p>		<p>From "Encephalan-CFM" monitor set</p> <p>Used with disposable ECG electrodes (conductor length – 0.5 m).</p>
3.5.	A_6434	<p><b>Set of Cup Electrodes</b> (adhesive type) for EEG registration by 5 derivations</p> <p>Used for cerebral functions monitoring, continuous EEG monitoring, neuromonitoring.</p> <p>Touchproof connector;</p> <p>color-coded marking;</p> <p>wires length – 1.2 m.</p> <p><b>The set includes:</b></p> <ul style="list-style-type: none"> <li>• cup adhesive EEG electrodes for EEG, EMG, EOG and ECG – 10 pcs.;</li> <li>• adhesive plaster Omnifix.</li> </ul>	 <p>cup electrodes for EEG, EMG, EOG and ECG derivations</p> <p>adhesive plaster</p>	<p><b>Required:</b></p> <ul style="list-style-type: none"> <li>• electrode paste EC2, TEN-20 or similar;</li> <li>• disposable ECG electrodes;</li> <li>• fixing bondage elastic (A_6901);</li> <li>• set of net elastic cover caps of required sizes (A_5018-3, A_5019-3, A_5020_3).</li> </ul> <p>Attachment with glue-collodion is also possible (not recommended for newborns).</p>




3.6.	A_5018-3	<p><b>Set of protective elastic fixing cover caps, "baby"</b> for adhesive cup electrodes</p> <p>Sizes from 34 to 45 – 5 pcs. (sizes 28 and 31– optionally);</p> <p><b>The set includes</b> chest belt fixing to a baby diaper.</p>	<p>protective cap x-type fixer</p> <p>cover caps</p> 	<p><b>Meant for additional fixation and coverage of adhesive cup electrodes and conductors to them at continuous studies.</b></p> <p>Protective cap x-type fixer can also be fixed to the chest belt of wireless body position sensor.</p>
4.	<b>Wireless Pulseoximeter Module with accessories</b>			
4.1.	A_4163-3	<p><b>Wireless Pulseoximeter Module</b></p> <p>Provides synchronous with EEG recording of patient arterial blood oxygen saturation (SpO<sub>2</sub>).</p> <p><b>The set includes</b> rechargeable batteries (type – AA, 2 pcs., including 1 additional).</p>		<p><b>Additional software (A_0803-1) should be purchased to use Wireless Pulseoximeter Module.</b></p> <p>Attached with a fixer.</p> <p>SpO<sub>2</sub> (Envitec-Wismar GmbH) sensors set is <b>required</b>.</p>
4.1.1.	A_5346-1	<p><b>Mains Supply Adapter</b></p> <p>for powering from the mains (220V, 50Hz) or USB port.</p> <p>Connected to a mains (220V, 50Hz) or USB port of computer equipment</p> <p><b>Include:</b></p> <ul style="list-style-type: none"> <li>• Mains Supply Adapter (A_7129)</li> <li>• USB Power Supply Adapter (A_5360)</li> </ul>		<p><b>For stationary use,</b> alternatively to autonomous powering of wireless pulse oximeter module from a rechargeable batteries.</p>


4.1.2.	A_4085-05	SpO <sub>2</sub> sensor SoftTip small RS-3227		
4.1.3.	A_4085-07	SpO <sub>2</sub> sensor MultiSite Y-3227		
4.1.4.	A_4820	<b>Table support</b> (fixer) The set includes 3M self-adhesive tape.	 	<p>Recommended <b>for stationary</b> use of the module near the patient.</p> <p>Attached with 3M self-adhesive tape for fixing on the horizontal and vertical surfaces.</p>




5.	Software that extends the functionality of cerebral function monitor		
5.1.	A_0803-1	<p><b>"Encephalan-NM" Software for Neuromonitoring</b></p> <p><b>Software provides calculation and visualization of trends</b> (duration of the time quantum of averaged parameters can be set in the range from 10 to 300 s) of the amplitude and spectral parameters of the EEG, DCp values, ANS (heart rate), oxygen saturation SpO<sub>2</sub>, etc.</p> <p>Software provides information in digital and graphic form for long-term dynamic monitoring and assessment of a patient's condition in addition to the data of the SW "Encephalan-CFM" in the intensive care unit and can be used in clinical and scientific research.</p>	 <p><b>Trends</b> are based on the signals recorded by means of electrodes for EEG registration, wireless pulse oximeter modules from the illustrated catalogue.</p>
5.2.	A_0836	<p><b>"Encephalan-VLFA" Software for Analysis of Very Low Frequency Activity</b> (patented in RF #2252692)</p> <p>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.</p>	 <p><b>DC-potentials are registered with ABP-5 (up to 5 EEG derivations) with electrodes for EEG registration.</b></p> <p><b>NOT for neonatology!</b></p>




6.	Video equipment kit and Software for epileptological studies with videomonitoring "Encephalan-Video"		
6.1.	<p><b>The kit is used for continuous synchronized videomonitoring for CFM monitoring and neuromonitoring.</b></p> <p><b>The kit includes adapted Software for epileptological studies with videomonitoring «Encephalan-video».</b> 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.</p> <p>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.</p>		 <p>Video cameras may be replaced with similar ones with the same characteristics without prior notice.</p>
6.1.1.	A_2310-80	<p><b>ME - "mobile economical"</b></p> <p><b>Included:</b></p> <p>HV-E Video-Unit (A_3359)</p> <p>Injector USB / PoE (A_8769)</p> <p>Ethernet Patch Cable Cat.5e 10m. (A_6357)</p> <p>Operation manual (A_6397)</p> <p>Software for epileptological studies with videomonitoring "Encephalan-Video".</p> <p><b>Optional:</b></p> <p>Wall mount for HV video-unit (A_8824)</p> <p>Clip Mount (A_8233)</p> <p>Tripod (A_2811)</p> <p>Events Marker (A_8598)</p> <p>IR Lamp (A_6396)</p> <p>Video-unit bag (A_2893)</p>	 <p><b>Main characteristics</b></p> <ul style="list-style-type: none"> <li>• Sensitivity – 0.07 lx @ F1.2;</li> <li>• day-night mode – a mechanical IR-cut filter;</li> <li>• resolution 1920x1080, 1280x720, 704x576;</li> <li>• frame rate – 25 fps;</li> <li>• built-in IR illumination;</li> <li>• powering – 220 V (via injector);</li> <li>• built-in microphone.</li> </ul>
6.1.2.	A_8598	<p><b>Event marker (wireless)</b></p> <p>For medical staff</p>	



6.1.3.	A_6396	<p><b>IR-lamp for quality video recording in darkness</b></p> <p>Provides soft IR light reflected from walls and ceiling, thereby improving the quality of the night video.</p> <p>It can be placed anywhere in the room, without reference to other elements of the EEG-video monitoring kit.</p> <p>It has an independent mains power supply 220.</p>		<p>Included in stationary video equipment kits.</p> <p>It can be included into mobile kits at customer's option.</p>
6.1.4.	A_8233	<p><b>Clip Mount</b></p>		
6.1.5.	A_2811	<p><b>Tripod</b></p>		

7.	Gels, disposable electrodes and accessories			
7.1.	A_2669	<b>Ten20 Conductive Paste</b>  For adhesive cup electrodes (114 g)		
7.2.	A_6532	<b>Electrode Cream EC-2 or similar</b>  For adhesive cup electrodes (100 g).		
7.3.	<b>Electrode gel</b> <ul style="list-style-type: none"><li>• for cup EEG electrodes for contact electrode gel;</li><li>• for EEG electrodes from removable electrode systems with fixing EEG electrodes in eyelets.</li></ul>			
7.3.1.	A_1854	<b>Electrode gel</b>  250 ml bottle		
7.3.2.	A_1854-1	<b>Electrode gel</b>  1 L bottle		
7.4.	A_1302	<b>Adhesive plaster (OMNIFIX elastic or similar)</b>  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.

7.5.	A_6901	<b>Fixing bondage elastic Peha-haft, self-fixing</b>		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.
7.6.	A_2714	<b>Disposable snap ECG Electrode (for EOG, EMG)</b> 50 pcs. in 1 pack.		
7.7.	A_0343	<b>Brush</b>		

8.	Required computing hardware and office equipment			
8.1.	A_2380-2	<b>Notebook (HP EliteBook 840 G5)</b> include mains power supply		<p><b>Configuration and characteristics are approximate and should be specified when order.</b></p> <p><b>Minimal requirements:</b></p> <ul style="list-style-type: none"> <li>• Intel Core i5;</li> <li>• RAM 4GB;</li> <li>• HDD 500GB;</li> <li>• monitor 15";</li> <li>• OS Windows 10.</li> </ul> <p>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.</p>
8.2.	A_0687	<b>Additional Monitor (Philips 241)</b> include mains power supply and HDMI cable. <ul style="list-style-type: none"> <li>• minimal diagonal 23";</li> <li>• resolution 1920x1080;</li> <li>• aspect ratio 16x9.</li> </ul>		<p>The monitor can be used with any of the computers (real-time work stations and data analysis and storage stations).</p>
8.3.	A_4303-1	<b>Additional HDD</b> with USB cable		



8.4.	A_4087	<b>Printer</b> Laser Black-And-White A4 format		Another printer type supply – by agreement.
8.5.	A_4088	<b>Equipment Trolley</b>		Equipment Trolley is adapted according to the computer and office equipment from the sales package.
8.6.	A_4088-4	<b>Equipment Trolley</b> with a drawer		

