

Electrocutaneous Parameter Analyzer

APEC-300



Introduction to the device

APEC-300 * is an apparatus of advanced electronics fed by an ordinary battery and able to perform the analysis of two fundamental electrocutaneous (EC) parameters:

- **Cutaneous Potential Level**
- **Cutaneous Impedance**

These two measures can be performed, besides that on human body districts, also on biological systems up to the cell cultures.

Cutaneous potential can be measured by a not invasive detecting of electric signals of the skin by means of electrodes, like it is done by usual with ECG, EMG or EEG. The measure of cutaneous impedance, that is resistance and capacity of the skin, asks an electric stimulation of a very weak intensity.

The electrocutaneous parameters can directly give information on the health state, because many diseases of interior organs of our body, as well as of many tissues, modify electric properties of areas or points of cutaneous surface. By analyzing with APEC-300 a doctor can reach an early diagnosis.

If punctual electrodes are used to pick up bio-electric signals in proper points of the skin, one can obtain answer values much more reliable than those provided by the traditional electro-acupuncture following Voll (EAV), by virtue of the very high resolving power guaranteed by APEC-300.

The measures of cutaneous potential level are a detection of a natural activity with no invasive interaction with the skin or other organs, therefore bioethics assessments or other similar constraints are supposed to be bypassed.

APEC-300 is endowed with an its internal software able to produce, for each measure of the potential level as a function of time, a frequency analysis, that is, the Fourier components of the bio-electric response. By this way one can determine a kind of electromagnetic footprint, typical of the body district or the biologic organism – animal, vegetable – or the cell culture, which are under examination.

Through appropriate electronic circuitry, it is possible to cut noise and electrical interference, everywhere present in our confined environments that are increasingly pervaded by electromagnetic fields. Thus, also very weak responses can be appreciated, that otherwise would be masked by noise or interferences; in any case, one can compare a measure with or without external disturbance.

With a methodology similar to that applied to cell cultures one can perform tests on different kinds of pharmaceuticals.

For technical data referring to all the characteristics of the device, to its installation, to the accessories that equip APEC-300, and for a guide about the mode of use, it is available a file that will be send, for free, via e-mail, requesting to: **apec300@mcs-srl.com**.

* APEC-300 has a CE certification because complies at the following international normative: "IEC 60601-1-11:2015 Medical electrical equipment -- Part 1-11: General requirements for basic safety and essential performance"; "IEC 61010-1 Safety Requirements for Electrical Equipment for Measurement, Control, and Laboratory Use - Part 1: General Requirements"; "ISO 14971:2007 Medical devices -- Application of risk management to medical devices".

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