DEKA
Innate Ability

Laser SYSTEMS for Neurophysiology

Stimul 1340

The BEST WAY of Exploring **Pain Related** **Brain** Activities

The **LEPs** (**Laser Evoked Potentials**) are an advanced methodology of exogenous stimulation of the nerve endings of the skin between the laser pulses.
This method consists of the use of an Nd:YAP laser with a wavelength of 1,340 nm capable of penetrating in a targeted manner without any risks inside the skin.
The cerebral responses of the **LEPs** are correlated to the activation of the A-δ; and C nociceptors.
The laser stimulation takes place in a no-touch manner without activating the mechanoreceptors with a low excitation threshold connected to the A-δ; fibres.
A number of studies investigated **LEPs** as nociceptive response. These studies show that lasers are the only systems capable of reaching very short stimulation times (from 1 to 20 ms) producing absolutely distinct and clear electrophysiological recordings.
The shorter stimulus duration shortens receptor activation times and yields a more synchronous afferent volley, thus providing a stronger spatial temporal summation at central synapses that enhances the intensity of first pain and brain potentials.
The possibility of varying the intensity and the surface of the stimulation allows for separate activation of the different nocirecptors.

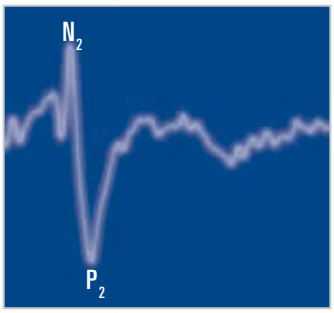
- **Clear, Net and Separate Electrophysiological Registrations of A-δ and C-fibres**
- **Distinct LEPs of the A-δ Nervous Fibres by the C-Fibres**
- **No Mechanical Contact**
- **Direct Action on the Nociceptors**
- **Istantaneous Thermal Stimulation of the Superficial and Deep Nociceptors**
- **Stimulation Not Depending on the Basal Temperature of the Skin**
- **Variations in the Stimulation Time Between 1 and 20 ms**
- **Variations in the Stimulation Area from 4 to 15 mm**

TECHNICAL DATA

Type of laser	Nd:YAP
Wavelength	1340 nm
Emission	Pulsed
Trigger modes	Master, Slave, RS 232
Energy level selection	from 0.5 to 15 J (step 0.25 J)
Pulse length selection	from 1 to 20 ms (step 1 ms)
Spot diameter	up to 15 mm
Transmission system	Optical fibre 550 µm (lenght 10 m)
Aiming beam	3 mW @ 635 nm
Power supply	230 Vac / 7.5 A max / 50-60 Hz
Dimensions	68 cm (H), 23 cm (W), 65 cm (D)
Weight	40 Kg

Main Applications

Neurophysiology



CAUTION

Visible and invisible laser radiation.
Avoid eye or skin exposure to direct or scattered radiation.
Class 4 laser product.

CE 0123

This brochure is not intended for the market of USA.

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A spin-off of the El.En. Group, DEKA is a world-class leader in the design and manufacture of lasers and light sources for applications in the medical field. DEKA markets its devices in more than 80 countries throughout an extensive network of international distributors as well as direct offices in Italy, France, Germany, Japan and USA. Excellence is the hallmark of DEKA's experience and recognition garnered in the sphere of R&D in over thirty years of activity. Quality, innovation and technological excellence place DEKA and its products in a unique and distinguished position in the global arena. DEKA manufactures laser devices in compliance with the specifications of Directive 93/42/EEC and its quality assurance system is in accordance with the ISO 9001 and ISO 13485 standards.

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