



DCD

PRODUCTS S.R.L.

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PAJUNK®

MultiStim



MEDICAL TECHNOLOGY

Plexus

MultiStim VARIO



This handy unit was especially designed for peripheral conduction anaesthesia. Simple operation and modern design make it possible to use this unit with one hand.

The new **MultiStim VARIO** is a state-of-the-art aid, which can be used for both indications of anaesthesiological nerve stimulation, i.e. firstly, for **percutaneous identification** of peripheral nerves in conduction anaesthesia and secondly, for **percutaneous stimulation** in neuro-muscular monitoring in general anaesthesia.

The pocket-sized casing and simple operation enable the unit **to be used with one hand**; audio-visual signals with adjustable volume allow you to give your undivided attention to the patient.

MultiStim VARIO has a very precise constant-current micro-processor control system, providing all stimulation impulse patterns and frequencies required for the two fields of application. It ensures optimum dependability and objectivity for locating the nerve as well as for measuring the neuro-muscular block with muscle relaxants.

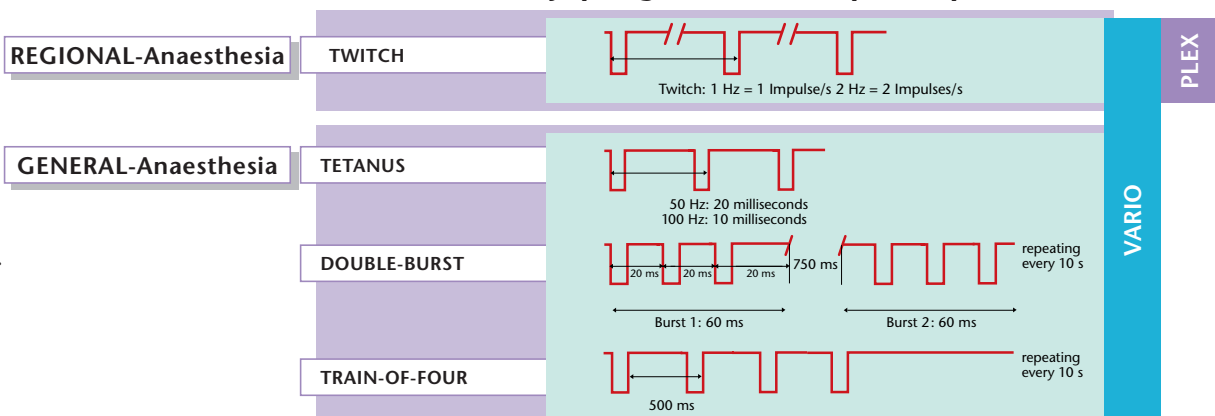
The stimulation impulse width is adjustable in a number of steps in the range 0.1 – 1.0 ms.

By pressing a key, the **actual stimulation current strength flowing through the patient** can be depicted on the LCD display alternatively with the selected target current strength.


Stimulation needles with varying point geometry, lengths and diameters are available for **identification of peripheral nerves** in conduction anaesthesia. They serve as a different electrode for locating the peripheral nerve and are connected to **MultiStim VARIO's** patient conductor, which is designed to resist being pulled out inadvertently. Regular stimulation electrodes are normally used as a neutral electrode.

A patient conductor with two clips to connect it to stimulation electrodes is available for **percutaneous application**.

Permanently programmed impulse patterns



Performance features of all MultiStim appliances

- MultiStim appliances are fully equipped, pocket-sized peripheral nerve stimulators, independent of mains electricity supply.
 - The desired intensity of the stimulation current can be selected using the \pm keys and is shown on the **large, easily read LCD display**.
 - The actual stimulation current flowing through the patient is constantly measured and by pressing a key it can be depicted on the LCD display alternatively with the selected current. Thus, there is a switching facility between displaying the **selected** and the **actual** stimulation current.
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- **Membrane touch pads** make it very easy to select the chosen stimulation function.
 - The stimulation function selected is shown **continuously** on the digital LCD display.
 - In addition to illuminating the stimulation impulse LED, a tone sounds (with adjustable volume) each time a stimulation impulse is delivered. This facilitates better direct observation of the patient's reactions.
 - The appliance provides **highly accurate constant current** regulated by microprocessor with high performance end stages.

Stimulating current range:	max. 6 mApp, 0 Ω – 12 k Ω
Stimulating voltage range:	max. 65 Vpp,
Signal form:	monophasic, negative rectangular impulse
Current supply:	9 V alkali battery
 - Continuous comparison of selected vs. actual current, with optical and acoustic warning if the actual current flowing deviates from the selected current.
 - Nerve tracts can be **localised very accurately**: constant current range for identification of peripheral nerves 0 – 6 mA, adjustable in 0.01 mA steps.
 - Low power consumption.
 - The appliance is **shut off automatically** with a preceding acoustic warning signal if no keys are operated over a period of 20 minutes.
 - Battery test function.
 - Coded connector plug on the cable **prevents false connection** and limits the exit current for identification of peripheral nerves to a maximum of 6.0 mA (safety function).
 - Optical and acoustic **warning signals** in the event of disruption or interruption of the current circuit.

MultiStim PLEX

With the new MultiStim PLEX we are offering a nerve stimulator for plexus anaesthesia which is very simple to operate. It offers all the functions of the MultiStim VARIO apart from the functions for percutaneous relaxation monitoring, the PAUSE function and adjustable stimulation impulse width.

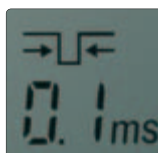
The device is particularly suitable for training purposes. Relaxation monitoring cannot be performed with it.

- The stimulation impulse width is 0.1 ms = 100 μ s (microseconds).
- Constant current range 0 – 6 mA, adjustable in 0.01 mA steps.



MultiStim VARIO only:

- In addition to the ability to identify peripheral nerves in conduction anaesthesia, MultiStim VARIO provides functions for **percutaneous relaxation observation** in general anaesthesia (50/100 Hz, TOF, DBS).
- Constant current is provided for this percutaneous application in the range 0 – 60 mA, adjustable in 0.1 mA steps.
- **Adjustable stimulation impulse width**: 0.1 ms, 0.3 ms, 0.5 ms, and 1.0 ms for selective stimulation of sensory and motor nerve fibres in mixed nerves.
- A **PAUSE** function makes it possible to interrupt stimulation without delivering impulses, in order to change the stimulation parameters whilst the appliance remains connected to the patient.

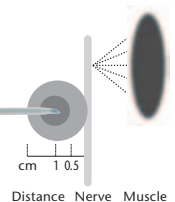


Impulse amplitude

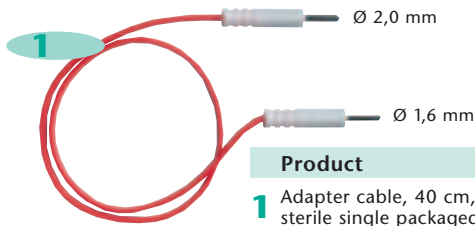
3.00mA

Unipolar cannula

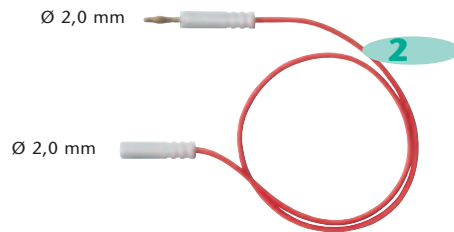
A response is obtainable with the cannula tip approaching to 1 cm with a stimulation of 3 mA (0.1 ms at cathode).



Accessories MultiStim



Product	Order no.	Size	Type	Oty.
1 Adapter cable, 40 cm, re-sterilizable, sterile single packaged	01151-861K	1.6 ↔ 2.0 mm	male – male	10
2 Extension cable, 40 cm, re-sterilizable, sterile single packaged	01151-861F	2.0 ↔ 2.0 mm	male – female	10



Product	Order no.	Type
MultiStim VARIO incl. plastic case and patients cable to connect stimulation cannula	1151-94-10	Nerve stimulator for peripheral conduction anaesthesia and neuro-muscular monitoring
MultiStim PLEX incl. plastic case and patients cable to connect stimulation cannula	1151-94-20	Nerve stimulator for peripheral conduction anaesthesia
1 Patients cable to connect stimulation cannula	1151-94-02	Male connector Ø 2.0 mm and clamp for ECG-electrodes
2 Patients cable for percutaneous stimulation (relaxation monitoring)	1151-94-03	2 snap-fastener connectors for ECG-electrodes

