

ENDOMED 484

Allround 4-channel electrostimulator



Suitable for electro **acupuncture**

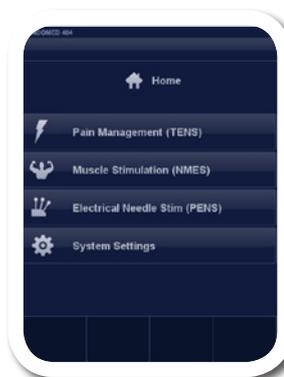


The ENDOMED 484 is a new generation high-performance electrostimulator for the health professional who wants it all:

- **TENS (Transcutaneous Electrical Nerve Stimulation)** for pain management
- **NMES (Neuromuscular Electrical Stimulation)** for muscular stimulation and re-education
- **PENS (Percutaneous Electrical Nerve Stimulation)** for electro-acupuncture and acupoint stimulation

The 4 channels can be used separately, in pairs or at the same time with different programs.

The ENDOMED 484 is therefore the ultimate solution for the treatment of painful conditions and muscle impairment in stroke rehab (incl. dysphagia), orthopaedics, sport rehab and pelvic floor re-education (incontinence).



ELECTROTHERAPY

Equipment for pain management and muscle stimulation. Electrotherapy applications for fast pain relief without side effects. Muscles can be stimulated to improve the function of soft tissue. Electrotherapy can be used to measure differentiated tissue response to stimulation.

ENDOMED 484

1498981 ENDOMED 484



TECHNICAL SPECIFICATIONS

Power supply	100–240V, 50/60 Hz, max. 100 VA
Dimensions of device (WxDxH)	24 x 28.6 x 9.3 cm
Dimensions of device with base	24 x 30.5 x 18.2 cm
Weight	2.5 kg
Weight, including optional battery	3.5 kg

Number of channels	4 (100% independent)
Intensity	0–140 mA (in steps of 0.1 mA)
Output:	Constant current
Timer	0-90 min (in steps of 1 min)

Current wave forms (TENS/NMES/PENS):

- Asymmetrical biphasic pulsed current (net zero)
- Symmetrical biphasic pulsed current (net zero)
- Symmetrical biphasic pulsed current with interphase interval (net zero)

Pulse duration	10-1000 μ s (for symmetrical biphasic pulsed current) and 5–450 μ s (for asymmetrical biphasic pulsed current)
Range of interphase interval	0-250 μ s
Frequency	0.5 – 200 Hz
Modulation frequency	0 – 180 Hz
Modulation programs	1/1, 3/3, 6/6, 12/12, 30/30 and 60/60s

TENS stimulation modes:

- High Frequency TENS
- Low Frequency TENS (acupuncture-like)
- Burst Frequency TENS
- Modulated TENS: Frequency Modulation (FM), Pulse Width Modulation (PWM) and Amplitude Modulation (AM)

NMES stimulation modes:

- Single channel stim
- Dual channel stim: synchronous, asynchronous and alternating (reciprocal)
- Multi channel stim: synchronous, asynchronous, alternating and PEMS (Progressive Electrical Muscle Stimulation)

Active rest stimulation (fixed frequency of 8 Hz during resting period):

ON/OFF time:	yes
Ramp UP/DOWN time:	0 -120 s
Delay time:	0 – 10 s
	0.1 – 120 s

PENS stimulation modes:

- High-Frequency Electro-acupuncture
- Low-Frequency Electro-acupuncture
- Burst Frequency Electro-acupuncture
- Modulated Electro-acupuncture: Pulse Width Modulation (PWM), Amplitude Modulation (AM), HAN Stimulation

Programmable positions	1000+
Sequential programs	Max. 15 phases

STANDARD ACCESSORIES ENDOMED 484

1498740	CD-ROM with Instructions For Use (PDF on CD-ROM)
1498742	Information Booklet
3444290	Mains cable 230V-EUR
1498010	Device base (inclination support)
8x xxxxxxx	self-adhesive electrode (EN-Trode) 5x5 cm, 2 mm female
8x xxxxxxx	self-adhesive electrode (EN-Trode) 5x9 cm, 2 mm female
4x 3444211	Patient cable 2-core & 2 mm male plugs - black, with colour clips
3444180	Point Electrode, 2mm female connector, incl. 10 silicone conductive caps
2x 3444182	Crocodile clamp with 2 mm female connector (set of 2)

OTHER PRODUCTS THAT MIGHT INTEREST YOU

EN-CAR U

The EN-Car U is your companion for any piece of Enraf-Nonius equipment. For laser, ultrasound, biofeedback, shockwave or electrotherapy, with the EN-Car U you have it all close at hand.

ORDERING DATA

1468960 EN-Car U

Please also see the separate product leaflets at WWW.ENRAF-NONIUS.COM



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ENDOMED 484

TENS

(Transcutaneous Electrical Nerve Stimulation) is a method of electrical stimulation for pain relief in acute and chronic conditions. The ENDOMED 484 includes multiple forms of TENS as options: Conventional (high frequency) TENS, Acupuncture-like (low frequency) TENS, Burst TENS and Modulated TENS. The different methods of applying TENS relate to the different physiological mechanisms for pain modulation. TENS is non-invasive and has few side effects when compared with drug therapy.

NMES

(Neuromuscular Electrical Stimulation) is used to promote muscle strengthening and functional recovery of extremities (upper and lower limbs). The ENDOMED 484 allows the user to work with single, dual or multiple channels and offers synchronous, asynchronous and alternating (reciprocal) stimulation for muscles or muscle groups. In addition to these stimulation modes, the ENDOMED also features PEMS (Progressive Electrical Muscle Stimulation). This unique function is extremely beneficial in Functional Electrical Stimulation (FES) since it ensures that all four channels stop simultaneously, regardless of the contraction patterns of each channel. PEMS is highly desirable for muscle stimulation in a kinetic chain (e.g. in stroke rehab).

PENS

(Percutaneous Electrical Nerve Stimulation) is a proven and effective analgesic therapy which combines the advantages of both TENS and electro-acupuncture. In PENS the current is delivered to the body using small acupuncture-like needles positioned in soft tissues and/or muscles for the relief of pain and functional improvement in patients with migraine, neuropathic pain, sciatica and chronic knee pain, for example. Electro-acupuncture and related techniques are effective for acute and chronic pain and reduces some side effects. This minimally invasive procedure is rapidly growing in popularity as the results are excellent. Some even consider it the ultimate combination of Dry Needling and TENS.

Endomed 484 ... 4 Pain Management and 4 Muscle Stimulation

Endomed 484 ... 4 Performance and 4 Versatility

Endomed 484 ... 4 you!



PENS: 'Electrical Dry Needling'

ENRAF-NONIUS

FEATURES OF THE ENDOMED 484

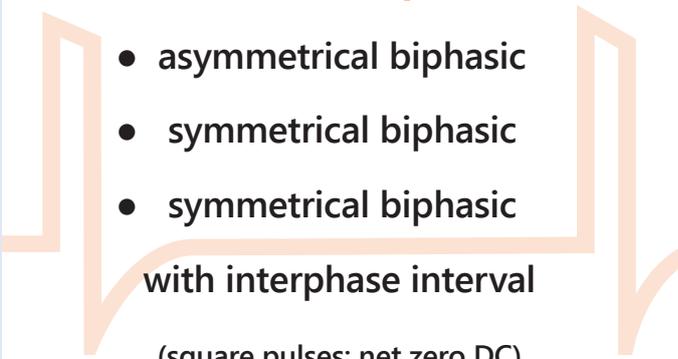


12 **evidence-based** protocols
(6 TENS, 4 NMES and 2 PENS)
including the display of
the anatomic localizations and
treatment instructions



4 Fully independent channels for
the simultaneous stimulation of
up to 8 needles/electrodes

Current wave forms:

- 
- asymmetrical biphasic
 - symmetrical biphasic
 - symmetrical biphasic
with interphase interval
(square pulses; net zero DC)

Intensity can be regulated
separately for each channel

Pulse durations up to **1000** μ s

Quick Access to
evidence based parameters,
even in manual mode

Powerful

current output up to 140 mA
(peak per channel)

Modulation modes:

- Frequency (FM)
- Pulse Width (PWM)
- Amplitude (AM)

FM PWM AM

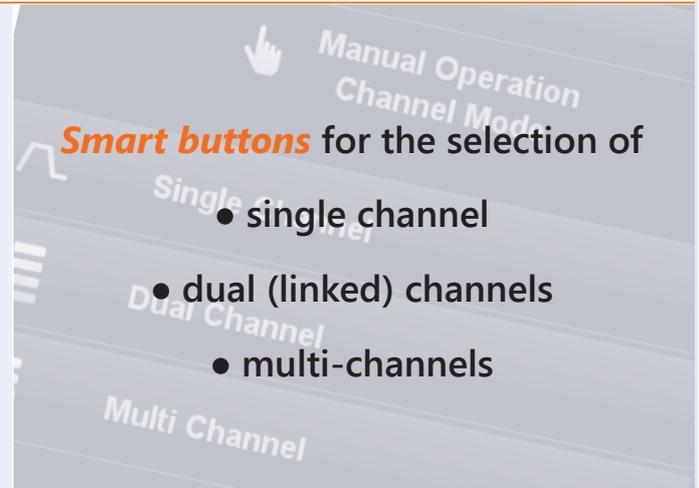
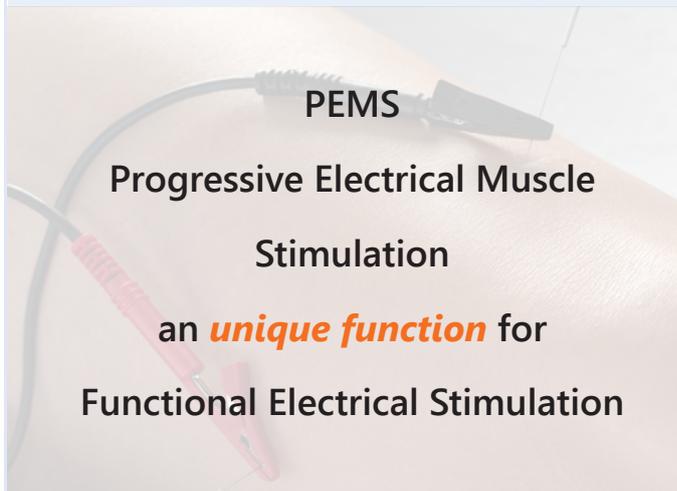
FEATURES OF THE ENDOMED 484

Smart buttons for selection of

- frequency
- pulse width
- modulation mode

Smart buttons for the selection of

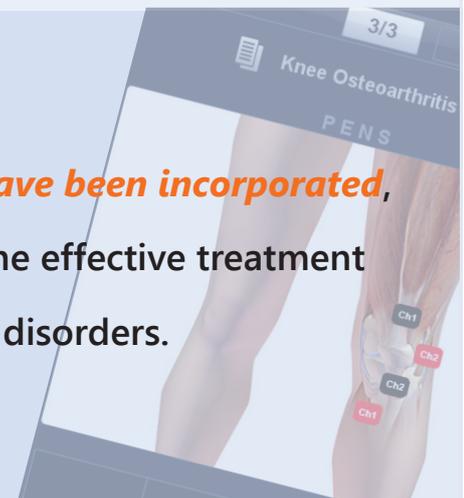
- single channel
- dual (linked) channels
- multi-channels



AUTO

AUTO-mode for
Frequency and Pulse Duration
(available in certain programs)

Clinical guidelines & evidence-based **protocols have been incorporated**,
providing the user with recommendations for the effective treatment
of pain and various musculoskeletal disorders.



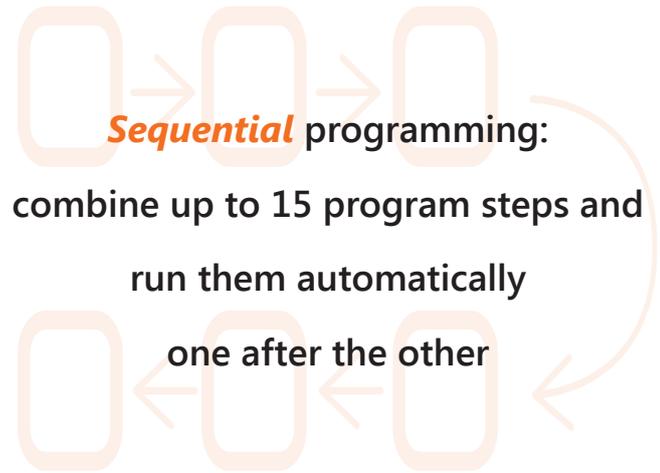
Active Rest button:
starts electrical stimulation
during the rest phase
for the prevention of muscle **atrophy**

Stores up to **1000** favorites

FEATURES OF THE ENDOMED 484



Programming function:
enables the user to define
personalised programs
and store them as favourites



Safe and comfortable:
the biphasic nature of the waveforms
minimize any skin reaction
due to the build-up
of electrolytes under the electrodes

Easy-to-use



Compact & stylish
Light-weight device
can be used on a
mobile basis (portable)



High resolution
full-colour touchscreen



Mains-*powered*
or
battery-powered
(optional)



ACCESSORIES ENDOMED 484

ELECTRODES AND MOIST PADS

ADHESIVE ELECTRODES

3444222	Adhesive electrodes Ø 2,2 cm, 2 mm female, 10 sheets of 8 (also for EMG)
3444056	EN-Trode Ø 3,2 cm, 2 mm female, 10 sheets of 4
3444135	EN-Trode Ø 5,0 cm, 2 mm female, 10 sheets of 4
3444057	EN-Trode 5x5 cm, 2 mm female, 10 sheets of 4
3444058	EN-Trode 5x9 cm, 2 mm female, 10 sheets of 4

RUBBER ELECTRODES

3444128	Rubber electrodes 4x6 cm, 2 mm female, set of 2.
3444129	Rubber electrodes 6x8 cm, 2 mm female, set of 2
3444130	Rubber electrodes 8x12 cm, 2 mm female, set of 2

MOIST PADS FOR RUBBER ELECTRODES

1460273	Moist pads for rubber electrodes 4x6 cm, set of 4
1460266	Moist pads for rubber electrodes 6x8 cm, set of 4
1460275	Moist pads for rubber electrodes 8x12 cm, set of 4

FIXATION STRAPS

3444020	Strap 100x3 cm
3444021	Strap 250x3 cm
3444022	Strap 100x5 cm
3444023	Strap 250x5 cm

POINT ELECTRODES

3444180	Point electrode (pen model), 5 mm Ø, 2 mm female, incl 10 conductive rubber caps
3441181	Silicon conductive caps (set of 10 pcs) for 3444.180

ADAPTERS

2523524	Adapter plug, 2 mm female, 4 mm male, red
2523523	Adapter plug, 2 mm female, 4 mm male, black
3444182	Crocodile clamp with 2 mm female connector (set of 2)

PATIENT CABLES

3444211	Patient cable 2-core & 2 mm male plug - black, with coloured clips
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CASES AND BAGS

3444675	Carrierbag 4-series
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BATTERY

2501016	Battery 12.0V 1.8AH
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3444222



3444056



3444135



3444057



3444058



3444128



3444129



3444130



1460273



1460266



1460275



3444020



3444021



3444022



3444023



3444180



3444181



2523524



2523523



3444182



3444211



3444675



2501016