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TWISTER® MM

The Compact Multimodal neurostimulator

for intraoperative neurostimulation

The art of neuromonitoring

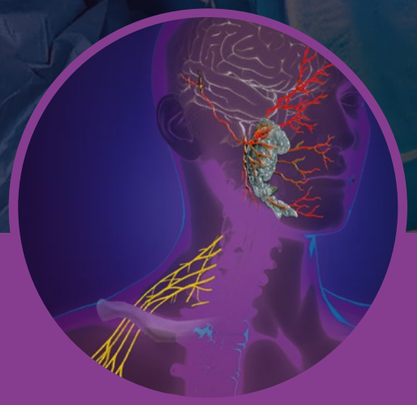
TWISTER® MM

for intraoperative neurostimulation

- ***Multimodal electric neurostimulator for intraoperative stimulation of nerves, muscles and the cortex***
- ***Space-saving compact unit***
- ***State-of-the art touchscreen***
- ***Simple, intuitive operation***
- ***Clear, structured control panel***
- ***Preconfigured user programs***

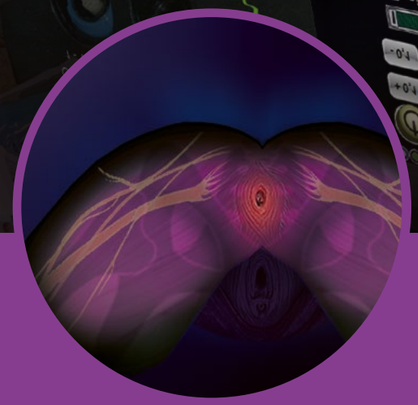
TWISTER® MM comes with preconfigured user programs with matching stimulation parameters for easy operation. All setting options are clearly presented on the display. The stimulation parameters for the current application are selected directly on the touchscreen.

When starting the software, you will see relevant operating instructions and cable connections, which contributes to the intuitive operating concept of **TWISTER® MM**, our compact stand-alone unit.



Direct nerve stimulation

Cortical mapping



PSARP

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User program

Direct Nerve Stimulation

for nerve stimulation
in ENT, OMS and
skull-base surgery
as well as peripheral
nerve surgery

Facial nerve, trigeminal nerve,
accessory nerve, brachial plexus

With the "Direct Nerve Stimulation" user program of **TWISTER**® **MM**, motoneurons can be electrically stimulated during surgery and the response can be verified visually or by palpation at the innervated target muscle. This method for localisation and functional monitoring is applied in the areas of ENT, OMS, skull-base surgery and peripheral nerve surgery. **TWISTER**® **MM** may be employed for monitoring the facial and trigeminal nerves during a parotidectomy or mastoidectomy. Another field of application is monitoring of the accessory nerve during neck dissection or of the branches of the brachial plexus in tumour patients, patients injured in accidents or patients with compression syndrome.

User program

Cortical Mapping

for direct stimulation
of the cortex in
neurosurgery and
epilepsy surgery

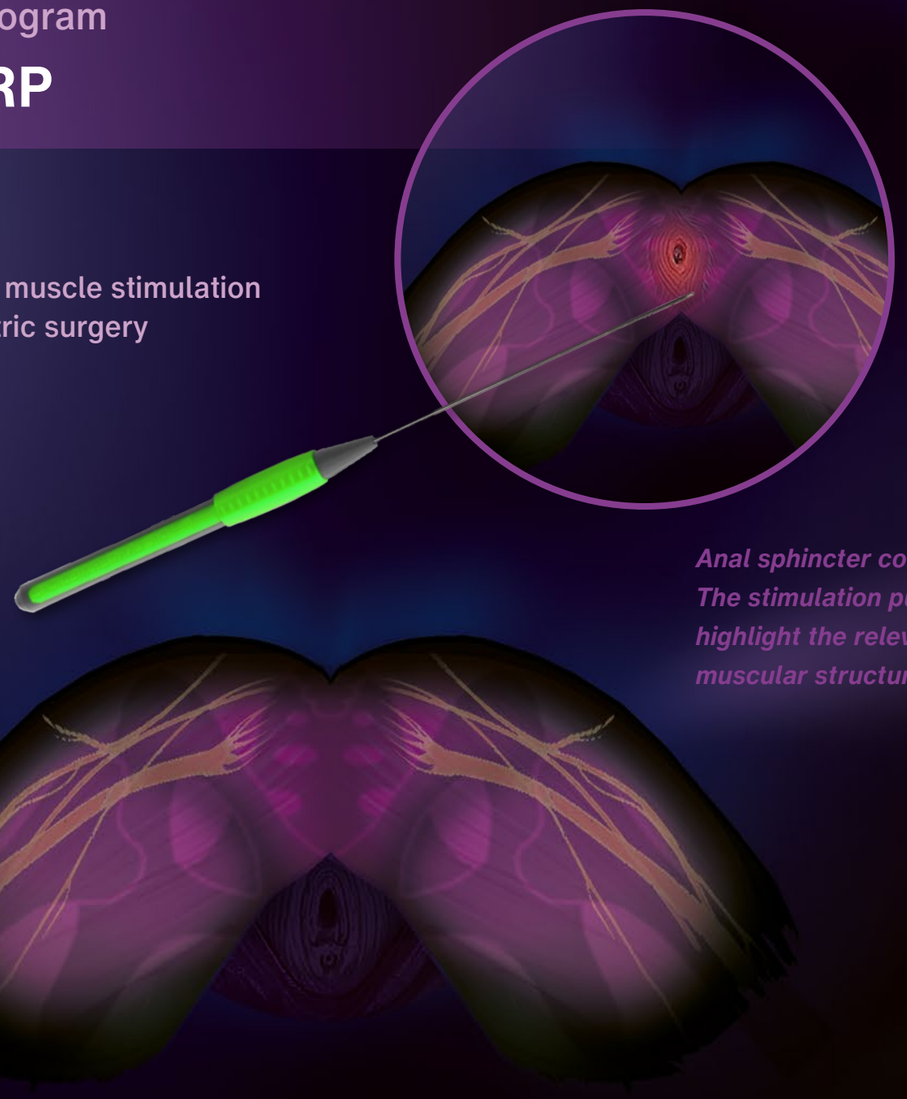
Primary motor cortex, speech centres
(Broca's area and Wernicke's area)

Direct stimulation of the cortex with the "Cortical Mapping" user program of **TWISTER**® **MM** has been designed for localisation of the motor areas and speech centres in the brain in neurosurgery and epilepsy surgery. Nervous system tumours can alter the anatomy of the cerebral cortex, which differs from patient to patient, making it difficult to access the tumour tissue without assistance while inflicting as little damage as possible to the surrounding tissue and preserving functionally vital areas of the brain. With **TWISTER**® **MM**, it is possible to visualise a map of the patient's individual cortex and localise the regions of interest.

User program

PSARP

Electrical muscle stimulation
in paediatric surgery



Anal sphincter complex: The stimulation pulses highlight the relevant muscular structures

The “PSARP” user program of **TWISTER**® **MM** was specifically developed for electrical stimulation of the sphincter in posterior sagittal anorectoplasty (PSARP) developed by Peña and de Vries.

Stimulation at a frequency of 50 Hz allows the localisation and functional monitoring of muscular structures important to preserving continence and of the access route necessary for reconstruction. The goal of the treatment is long-term faecal continence and additional quality in life for mostly very young patients in paediatric surgery.

Preconfigured user programs:

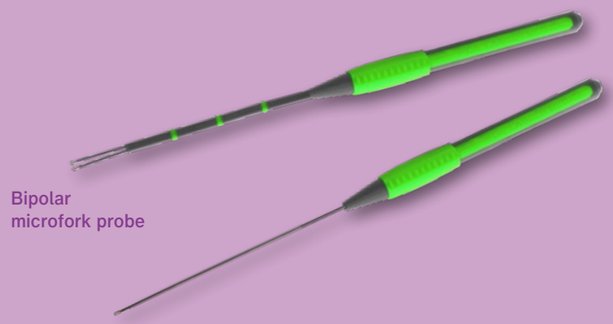
	Direct nerve stimulation	Cortical mapping	PSARP
Current (channel 1–4)	–	1–50 mA in increments of 1.0 mA	5–50 mA in increments of 1.0 mA
Current (channel 5–6)	0.1–20 mA in increments of 0.1 mA	–	–
Frequency	3–30 Hz in increments of 1.0 Hz	1–60 Hz in increments of 1.0 Hz	50 Hz
Pulse width	100 / 200 µs	400 µs (I ≤ 30 mA) (200 µs pos. + 200 µs neg.) 200 µs (I > 30 mA) (100 µs pos. + 100 µs neg.)	100 / 200 µs (1 ≤ 30 mA) 100 µs (1 > 30 mA)
Pulse shape	rectangular, negative	rectangular, bipolar	rectangular, negative

Accessories

This is a selection of our accessories for electrical stimulation:

Footswitch
initiates the stimulation pulses

Disposable stimulation probes
immediately ready for use



Bipolar
microfork probe

Monopolar
stimulation probe

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We are neuromonitoring

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