



Intraoperative Neuromonitoring
Functional Neurosurgery
 Pain Treatment
 Neurological Diagnostics

ISIS MER System

The Key Technology for Microelectrode Recording

» AREA OF APPLICATION

» Functional procedures



**Improving targeting with neurophysiological localisation
to assure accuracy and safety**

>> ISIS MER System Family

Three basic versions which can be individually equipped according to your needs



ISIS MER System – The Key Technology for Microelectrode Recording

- › Compact hardware design and an easy-to-use software guarantee a straightforward intraoperative workflow
- › Optimal signal interpretation through multiple filter options, LFP measurement and an online TCP/IP interface
- › Combination with IONM modalities offers a wide range of different monitoring possibilities

>> NEW:

Online TCP/IP interface for streaming raw data and metadata

>> ISIS Headbox

> ISIS Headbox MER



Compact hardware base for target point localisation via MER recordings and test stimulation

Characteristics:

- › 5 channels for MER and test stimulation, 20 kHz, 16 bit
- › Adjustable high and low pass filter for hardware and software
- › TTL trigger in/out
- › Constant current stimulation from 0.1 to 6mA between 1–300 Hz

> ISIS Headbox EMG



High performance system for electromyography (EMG) offering eight differential amplifier inputs for simultaneous EMG recording during MER

Characteristics:

- › 8 EMG channels, 20 kHz, 16 bit
- › Adjustable high and low pass filter for hardware and software
- › TTL trigger in/out

> LFP recording



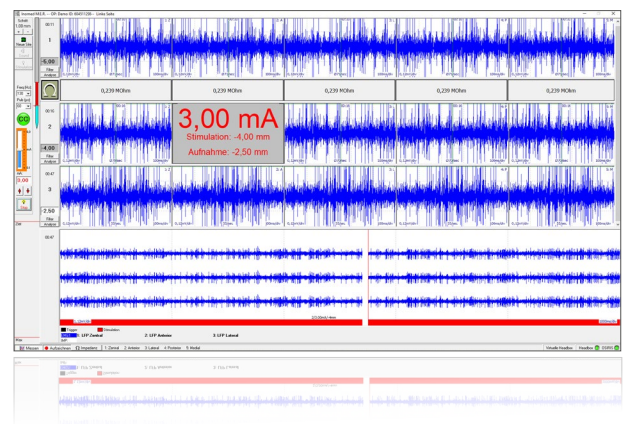
The combination of the MER and EMG Headbox enables local field potential (LFP) measurements for up to 5 channels.

>> ISIS MER Software 3.3.2.0

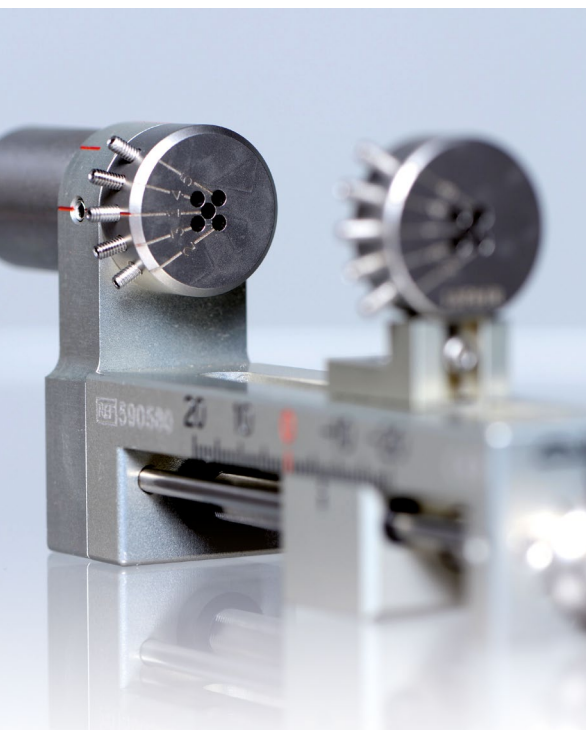
Powerful and user-friendly software platform covering the highly demanding requirements for optimal intraoperative target point localisation.

Characteristics:

- > Intuitive display of the recorded MER and LFP signals
- > Different filter and analysis options (FFT/Spike Analysis/Fire Rate) to support signal interpretation
- > Online TCP/IP interface for streaming of raw data (MER, LFP, EMG) and metadata (application parameters, impedances, stimulation,...)
- > Impedance measurement for micro and macro contact for MER and LFP recording
- > Fast and easy MicroDrive calibration for reliable depth information by using the depth sensor



[Deep brain stimulation video >>](#)
with the inomed ISIS MER system



>> inomed MicroDrive

Sophisticated instrument for precise electrode positioning during DBS procedures.

Characteristics:

- > Highest precision and proven reliability
- > Simultaneous insertion of up to 5 electrodes via BenGun alignment
- > Haptic feedback for each complete revolution (0.5 mm)
- > Reusable with validated processing procedure
- > Adaptability to many stereotactic frames



>> Guide Tubes

Large selection of different guide tubes:

- > Universal guide tube
- > MER guide tube
- > DBS guide tube

All guide tubes are available in different lengths. Longest tube ends 10 mm before target, shortest tube ends 50 mm before target.

Simplify the procedure with the all-in-one universal guide tube solution:

- > Inner part for MER electrodes
- > Outer part for DBS electrodes
- > No need to change guide tubes when inserting DBS lead

>> MER Accessories

Three MER electrode designs provide flexibility in adjusting to different target structures.



MicroMacro Electrode

The combined MicroMacro electrode has been developed for precise electrophysiological determination of the anatomical target point during functional procedures.

Its design with an ultrafine microtip and ring-shaped macro contact allows simultaneous recording of individual cells or whole groups of cells within a single area.

The macro contact is used for test stimulation.



MicroMove Electrode

The inomed MicroMove electrode (iMM) is a combined electrode for the precise electrophysiological localization of anatomical target points during interventions in functional neurosurgery.

The electrode has a displaceable microtip for single cell recording. This movable microtip guarantees the smallest possible displacement of tissue.



Macro Electrode

The Macro electrode is used to determine the anatomical target point by means of selective test stimulation.

The mode of action is comparable to that of a DBS electrode.

- >> Partnership
- >> Precision
- >> Innovation



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