

STMELEC-SYS

ELECTRICAL STIMULATION SYSTEM

This package includes everything required to deliver constant current and constant voltage electrical stimulation with an existing MP160 System with AcqKnowledge for a variety of applications, including muscle stimulation, nerve stimulation, shock and pain paradigms, transcranial direct current (tDCS), and transcranial alternating current stimulation (tACS).

The Electrical Stimulation System includes the following:

- STM100C** Stimulator Module
- STMISOLA** Isolated Linear Stimulator

- includes CBL122 (2), CBL100, and CBL212
- includes Power Supply AC300A-1 & cord for USA, Euro, UK or China

- INISOA** Input Isolation Signal Adapter
- CBLLIMIT2** Current Limiter: 2 ma (3 ma max)
- CBLLIMIT2AC** Current Limiter AC (2 ma – 3 ma)
- CBLCFMA** Current Feedback Monitor Cable
- LEAD110A** Touchproof Unshielded Pinch Lead, Black 3 m (2)
- EL509** Disposable RT Dry Electrode (pack of 100)
- GEL104** Salt-free gel for electrical stimulation



The Stimulator setup in AcqKnowledge provides easy-to-modify single-, double- or multiple-pulse sequence outputs of any polarity. The Stimulator setup screen also provides standard sine, triangular and square wave outputs for other kinds of physiological tests. Create an arbitrary waveform by modifying an existing wave or reading in a sequence of user-specified numbers (text file).

Cabling:

The **Current Feedback Monitor Cable (CBLCFMA)** is recommended for use with any voltage stimulator; to isolate CBLCFMA output, use INISOA to AMI100D. Always make sure to place the electrodes on the participant at least 10 minutes before starting any electrical stimulation. Use a CBLCFMA to monitor and record the actual current delivered to the participant at ALL times. A large enough change in current delivered to the participant will alter the subjective perception of the stimulation.

Optional Add-ons:

The STM100C will allow Haptic and Auditory stimulation when the appropriate accessories are added to the Electrical Stimulation System.

Haptic

With the **TSD190** haptic (tactile) stimulator, mechanically stimulate a 1.5 mm diameter area of skin surface; both plunger force and travel can be infinitely adjusted between zero and a specified maximum value. Use to perform somatosensory and other types of tactile sensory tests; the TSD190 can be employed in an averaging-type sensory nerve test to determine the activation threshold and speed of propagation of somatosensory nerves.

Auditory

With the OUT100 headphones, the STM100C module can provide tone or click output (e.g. startle response). OUT100 headphones can also be used to listen to signals from other module outputs during acquisition (e.g., EMG or heart sounds signals). With the OUT101A ear tube phone, the STM100C can output a series of clicks or tone pips for auditory brainstem response (ABR) testing.

Other Sensory Stimulation

BIOPAC also has options for olfactory scent delivery and thermal stimulation, plus stroboscopes for photic stimulation. With the STMISO series stimulus isolation adapters, the STM100C can provide high voltage or constant current stimulus output for nerve conduction (see NERVE1 nerve chamber), somatosensory and other types of stimulus response studies.