

ECIS™ Model 9600

The ECIS™ 9600 is a high throughput, automated instrument designed to monitor cells grown in special arrays with a standard 96 well plate configuration and footprint. The consumable 96 well arrays (96W1E) are easily connected to the instrumentation using a single lever to make electrical contact. The instrument is capable of scanning all 96 wells in approximately 30 seconds. The impedance of small active electrodes in each well is measured in real time to record cell activity and response to agents. This instrument monitors the simple (rather than complex) impedance at one of three fixed frequencies covering the range where impedance changes due to the presence of the cells are strongest. In addition to noninvasive measurements, the ECIS™ 9600 can be programmed to apply elevated fields for cell migration measurements via an automated wound-healing assay [PNAS 101: 1554-1559 (2004)]. High fields can also be used at shorter duration to electroporate membrane-impermeable compounds into cells.

The electronics are consolidated in a single case that sits beside a tissue culture incubator. Twelve leads connect the main instrument to the 96 well array holder within the incubator space. A USB cable provides communication to a PC that controls all data acquisition, storage and analysis. In addition to the ECIS™ electronics and software, the system is supplied with a state-of-the-art PC/monitor (or laptop), color ink jet printer and an initial supply of electrode arrays.

The user-friendly ECIS software runs on a Window's™ XP Profession platform for all operations. In addition to using the ECIS analysis and plotting programs, one can readily convert data to text files for export to other data analysis systems.

Specifications

Maximum number of wells: 96

Frequency range: fixed - 15kHz, 30kHz, 45kHz

Operating System: Windows XP

System Controller: Desktop or laptop PC

Front Panel Controls: Power on/off

Front Panel Indicators: Power, Measurement in Progress, Wounding/Electroporation Mode Activated

PC to 9600 communications: USB

Power: 120-240 VAC 50/60Hz

Dimensions: 17.25 x 8.5 x 20 inches (WxHxD)

Weight: 40 lbs

System includes: 96 well array holder, color printer, laptop or desktop PC

Array Holder dimensions: xxxxxxxxxx (WxHxD)

Array Holder material: Lexan ® polycarbonate, Delrin

Array holder to instrument cable length: 4.5 ft (a port in the incubator is desirable; 5/8 inch diameter minimum)