

ВОЛЬТОММЕТР MILLICELL ERS-2



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Millicell® ERS-2

Electrical Resistance System

Introduction

The Millicell® ERS-2 (Electrical Resistance System) is a meter and electrode system designed to reliably measure Trans Epithelial Electrical Resistance (TEER) of epithelial cells in culture. An increase in TEER detected with the electronic circuit of the Millicell® ERS-2 meter and its electrode is an indication of cell monolayer health and confluence.

A silver/silver chloride (Ag/AgCl) pellet on each electrode tip measures voltage. The small size of the electrode enables the user to easily measure transepithelial voltage and the resistance of cells grown on microporous membranes.

This system is for research use only.

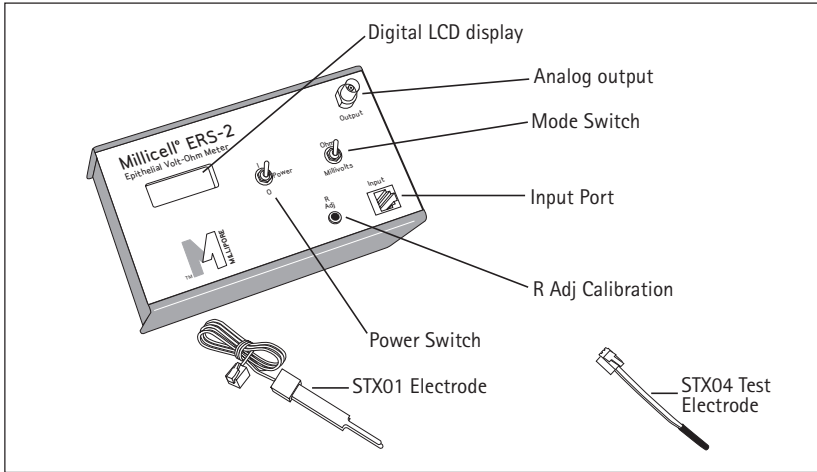
Benefits of AC Power Source Over DC Power Source

The Millicell® ERS-2 system uses alternating current (AC) to make membrane resistance measurements. Using an isolated AC source has several advantages over the traditional use of direct current (DC):

- Membrane voltage and voltage electrode offset do not affect resistance measurements.
- The zero net charge on the cells eliminates the adverse effects of DC current on the cell membrane.
- There is no electrochemical deposition of electrode metals.
- Membrane capacitance does not affect resistance readings. Once the Millicell® ERS-2 system is standardized, you can use it to quantitatively measure cell confluence.

The Millicell® ERS-2 System and Its Components

The Millicell® ERS-2 system consists of a meter, STX01 electrode, STX04 1,000 Ω test electrode, and battery charger.



The Meter

The unit measures 18.4 cm × 10.8 cm × 5.8 cm and includes an internal rechargeable 6 V NiMH 2,700 mAh battery pack with an external 12 V DC battery charger, equipped with an AC power cord. An analog output port allows output of analog data to a recording device.

The Electrode

The electrode is connected to a wire with a telephone-type plug at its end. This plug connects to the **Input** port at the front of the meter during use.



Specifications

Millicell® ERS-2 Meter

Membrane voltage range	± 200.0 mV
Voltage measurement	0.1 mV
Resistance range	0 to 9,999 Ω
Resistance resolution	1 Ω
AC square-wave current	± 10 µA nominal at 12.5 Hz
Power	Internal 6 V NiMH 2,700 mAh battery with external 12 V DC supply for recharging
Nominal battery run time	~8 hours*
Analog output	Millivolt mode: 1 mV = 10 mV Ohm mode: 1 Ω = 1 mV
Environmental range	50–100 °F (10–38 °C) 0–90% non-condensing relative humidity
Dimensions	7.25 × 4.25 × 2.3 in. (18.4 × 10.8 × 5.8 cm)
Weight	3 lb (1.4 kg)

* When the battery power level falls below a minimum threshold, the meter automatically powers off. A fully charged battery will provide about 8 hours of running time.

Regulatory Compliance

This product is in conformity with the following standards:

Safety:	EN 61010-1: 2001 (Eqv: IEC 61010-1:2001)
EMC:	EN 61326-1: 2006 (Eqv: IEC 61326-1:2005)
	EN 61326-2-3: 2006 (Eqv: IEC 61326-2-3:2006)

and therefore meets the provisions of European LV Directive 2006/95/EC and European EMC Directive 2004/108/EC.

Ordering Information

Millicell® ERS-2 System and Components

Product Description	Cat. No.	Qty/Pk
Millicell® ERS-2 system (includes meter, battery, STX01 electrode, 1,000 Ω test electrode, battery charger)	MERS00002	1
Replacement electrode	MERSSTX01	1 pair
Adjustable electrode	MERSSTX03	1 pair
Electrode for Millicell®-96 well plate	MERSSTX00	1 pair
Replacement 1,000 Ω test electrode	MERSSTX04	1
Replacement Battery	MERSBAT01	1

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