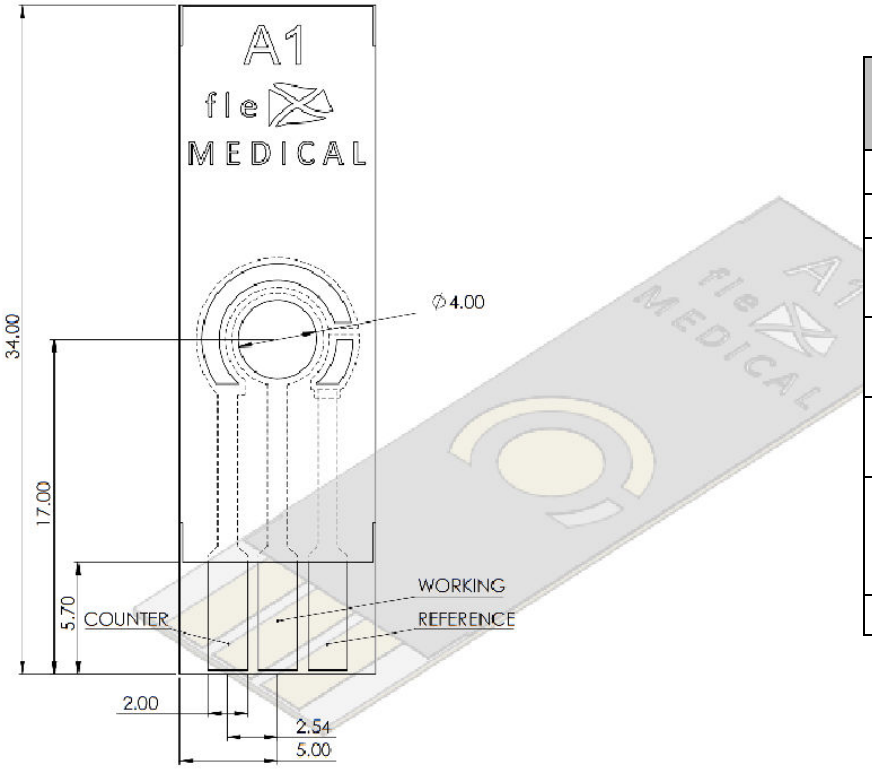
Technical Data Sheet

Thin-film Gold Electrodes

FMS-009



Electrochemical Technique	Suitable
Chronoamperometry	☑
Cyclic Voltammetry	☑
Square Wave Voltammetry	☑
Differential Pulse Voltammetry	☑
Open Circuit Potentiometry	☑
Electrochemical Impedance Spectroscopy	☑
Others	Enquire

Description

The FMS-009 electrode features a sputtered gold working electrode and counter electrode on a polyester substrate. It is configured as a three-electrode system, incorporating a screen-printed Ag/AgCl reference electrode. These electrodes are designed for single use and are intended exclusively for research and development purposes.

Table 1: Technical specification for FMS -009 electrodes

Technical Specifications	
Working Electrode Material	Sputtered Gold
Counter Electrode Material	Sputtered Gold
Reference Electrode Material	Ag/AgCl
Substrate Material	PET
Conductive Track Material	Sputtered Gold
Working Area	12.6 mm^2
Recommended Sample Volume	50 – 100 µL

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Sample Performance Data

The performance data presented in this document represents typical expected results for FMS-009 electrodes within the same batch. For detailed information regarding potential variations between batches, please contact the manufacturer.

Method of Analysis

Analysis was performed by cyclic voltammetry using the settings outlined in table 2 with a mediator solution consisting of 5mM potassium ferricyanide/ferrocyanide in 10 mM PBS pH 7.4.

Table 2: Analysis settings

Results

The voltammograms below show 3 successive scans on the same electrode, the first scan has been removed.

Setting	Value
E begin	0.1 V
E vertex1	0.6 V
E vertex2	-0.5 V
E step	0.01 V
Scan rate	50 mV/s
Number of scans	4

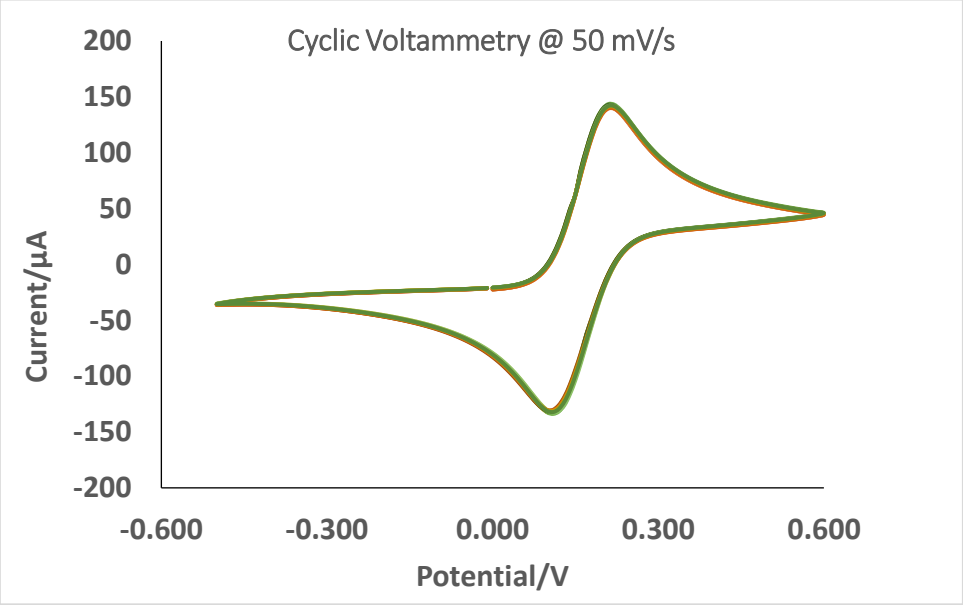

Figure 1: 3 successive CV scans of mediator solution on a FMS-009 electrode.

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Sample Performance Data

Typical Electrode Performance

Table 3: Expected potassium ferricyanide / ferrocyanide oxidation & reduction peak values for FMS-009 electrodes.

Parameter	Peak Height (µA)	Peak potential (V)
Oxidation Peak	139.4	0.21
Reduction Peak	-129.4	0.10

Repeatability

Table 4: Oxidation & reduction peak variability date from 20 electrodes within the same batch

Parameter	Intra – electrode Variability (%CoV)	Inter – electrode Variability (%CoV)
Oxidation Peak	0.9	2.2
Reduction Peak	0.6	2.4

For more information contact: info@FlexMedical-Solutions.com

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