

Introduction of *ZensorSimulator* (Simulator of Chemical Sensor) ECAS100

Zensor R&D

禪譜科技



Sensing Good Life



Zensor R&D
Zensor Research & Development

Zensor Simulator

Zensor ECD

Zensor SPE

Zensor R&D

wishes to provide you and your team with a new generation tool for research and development in your chemical sensor system. We also look forward to cooperating with you as future partner in the long run.

The Character of Hot Light

Zensor Simulator

Simulator of Chemical Sensor



5.0 Color Touch Panel



Electrochemical Analyzer



Replaceable & Editable Chip



Simulation of Chemical Sensor for Off-line Use





5.0 Color Touch Panel



ECA Mode



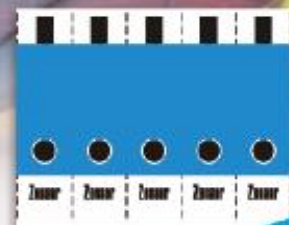
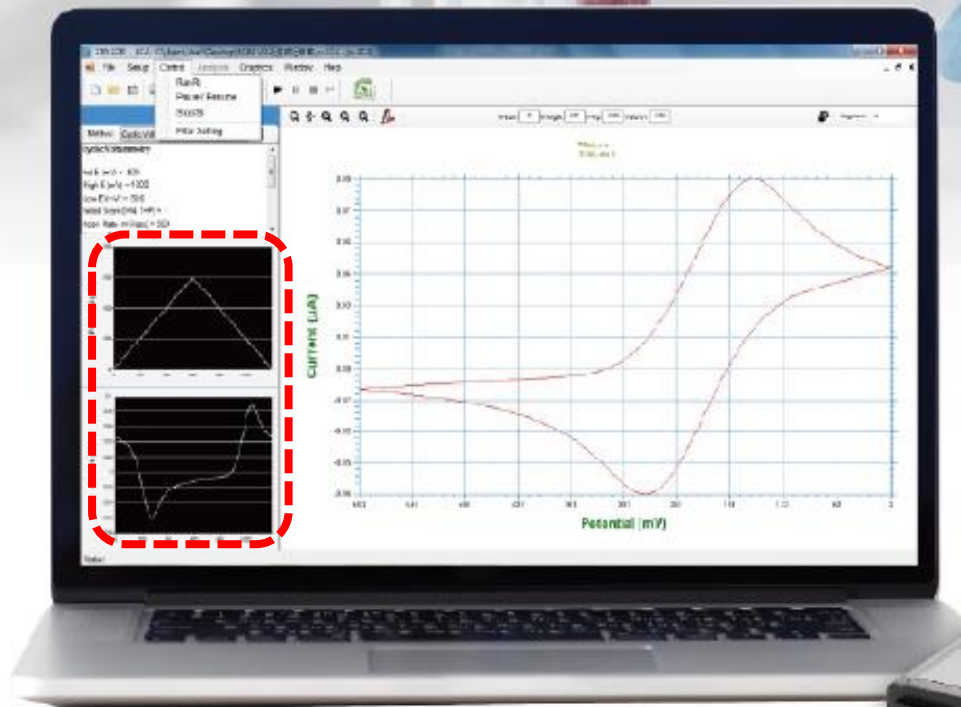
Testing History Mode



ECAS Mode



Setting Mode



Electrochemical Analyzer (ECA)

The oscillographic illustration in potential and current with real time during ECA operation.

ECA method: CV (Cyclic Voltammetry), LSV (Linear Scan Voltammetry), SWV (Square-Wave Voltammetry), DPV (Differential Pulse Voltammetry) and IT (Amperometry).



Replaceable & Editable Chip

4

It only takes 4 steps to complete process editing.

(**P**rocedure / **D**ata analysis / **C**oncentration transfer / **A**ction to burn)

E

Every ECA methods can be interchangeably edited.

(CV / LSV / SWV / DPV / IT)

S

It can accomodate sample condition for interchangeable editing.

(Waiting for sample / Waiting for second / Waiting for trigger button)

4

It only takes 4 steps to complete process editing

ZENSOR - ECAS

File Setup Control Analysis Graphics Window Help

ECAS

Step : 1. Procedure

Method Select

P01: ☒ Cyclic Voltammetry

P02: ☐ <NONE>

P03: ☐ <NONE>

P04: ☐ <NONE>

P05: ☐ <NONE>

P06: ☐ <NONE>

P07: ☐ <NONE>

P08: ☐ <NONE>

P09: ☐ <NONE>

P10: ☐ <NONE>

Measurement Parameters Setting :

P01

Method: Cyclic Voltammetry

Init E (mV): 0

High E (mV): 1000

Low E (mV): 0

Initial Scan (mV/sec): Positive

Scan Rate (mV/sec): 500

Sweep Segments: 2

Sample Interval: 1

Quiet Time (sec): 0

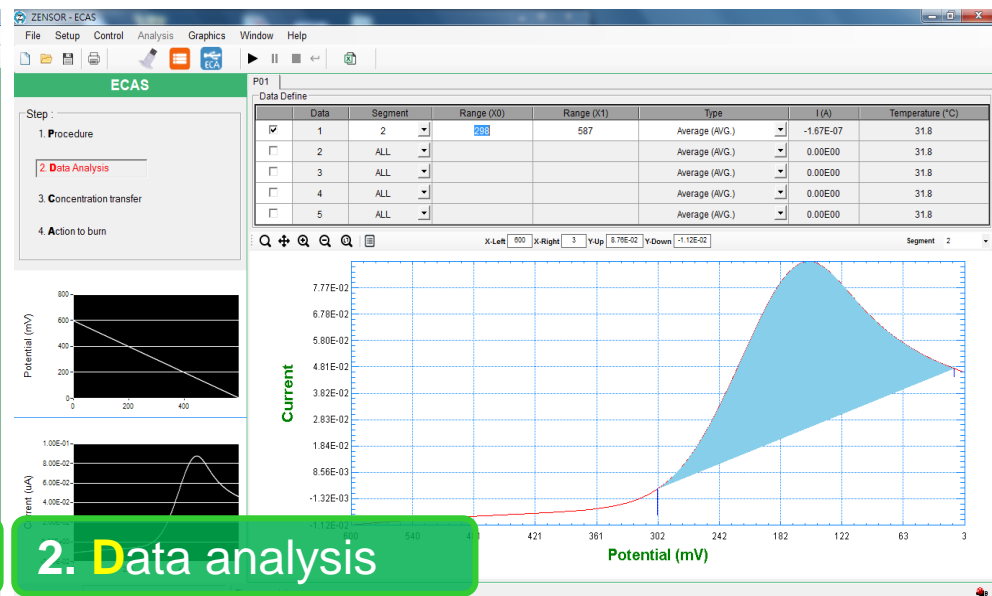
Pre-condition :

- Potential (mV): 0

- Time (sec): 0

Time remaining :

1. Procedure



ZENSOR - ECAS

File Setup Control Analysis Graphics Window Help

ECAS

Step : 1. Procedure

2. Data Analysis

3. Concentration transfer

4. Action to burn

Concentration Transfer

Calibration of Concentration

$$C_{conc} = k_a T^2 + k_b T + k_c$$

No.	I	Ka	Kb	Kc	Conc'
<input checked="" type="checkbox"/> 1	I1	0.00E00	2.00E-03	0.00E00	3.34
<input type="checkbox"/> 2	I1	0.00E00	0.00E00	0.00E00	0.000
<input type="checkbox"/> 3		0.00E00	0.00E00	0.00E00	
<input type="checkbox"/> 4		0.00E00	0.00E00	0.00E00	
<input type="checkbox"/> 5		0.00E00	0.00E00	0.00E00	

Concentration Calibrated by Temperature

$$C_{conc} = F_T \times C_{conc}' = (k_d T^2 + k_e T + k_f) \times C_{conc}'$$

T	Kd	Ke	Kf	FT	Conc	Unit	Decimal point
T1	0.00E00	0.00E00	1.00E00	1.00E00	3.34	ppm	2
1	0.00E00	0.00E00	1.00E00	1.00E00	0.000		3
1	0.00E00	0.00E00	1.00E00	1.00E00			3
1	0.00E00	0.00E00	1.00E00	1.00E00			3
1	0.00E00	0.00E00	1.00E00	1.00E00			3

Advantage Calculation

Background data from Step 3

Constant1	Constant2
0	1
No.	Data
1	P1-1 -1.67E-07 31.8
2	Y-1
3	Y-2
4	Y-3

Simulator Device

Chemical Sensor

Concentration

3.34 ppm

Temp 31.75 °C No. 000

Time remaining :

3. Conc. transfer

ZENSOR - ECAS

File Setup Control Analysis Graphics Window Help

ECAS

Step : 1. Procedure

2. Data Analysis

3. Concentration transfer

4. Action to burn

Concentration Transfer

Calibration of Concentration

$$C_{conc} = k_a T^2 + k_b T + k_c$$

No.	I	Ka	Kb	Kc	Conc'
<input checked="" type="checkbox"/> 1	I1	0.00E00	-2.00E-03	0.00E00	3.34
<input checked="" type="checkbox"/> 2	I2	0.00E00	0.00E00	0.00E00	0.000
<input type="checkbox"/> 3		0.00E00	0.00E00	0.00E00	
<input type="checkbox"/> 4		0.00E00	0.00E00	0.00E00	
<input type="checkbox"/> 5		0.00E00	0.00E00	0.00E00	

Concentration Calibrated by Temperature

$$C_{conc} = F_T \times C_{conc}' = (k_d T^2 + k_e T + k_f) \times C_{conc}'$$

T	Kd	Ke	Kf	FT	Conc	Unit	Decimal point
T1	0.00E00	0.00E00	1.00E00	1.00E00	3.34	ppm	2
1	0.00E00	0.00E00	1.00E00	1.00E00	0.000		3
1	0.00E00	0.00E00	1.00E00	1.00E00			3
1	0.00E00	0.00E00	1.00E00	1.00E00			3
1	0.00E00	0.00E00	1.00E00	1.00E00			3

Advantage Calculation

Background data from Step 3

Constant1	Constant2
0	1
No.	Data
1	P1-1 -1.67E-07 31.8
2	Y-1 2.78E-13
3	Y-2
4	Y-3

Simulator Device

Chemical Sensor

Concentration

3.34 ppm

Temp 31.75 °C No. 000

Time remaining :

4. Action to burn-in

Step 4: Action to Burn

Chip Information :

Burned Count :

Remnant :

Chip SerialNumber :

Paired Device SerialNumber :

Testing Records :

Status :

Burn in ECAS Chip :

Simulator Device Title : Chemical Sensor

☒ Enable Password

☒ Show Password

Burn

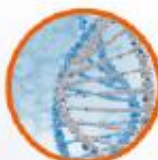
Cancel



Simulation of Chemical Sensor for Off-line Use



Drug



DNA



Metals



Cosmetics



Biosensor



Food

The Content of Package

1. ECAS 100 machine
2. ECAS chip
3. USB connected cable
4. Electrode cable connector (clip)
5. Electrode cable adapter
6. Electrode adapter
7. Power adapter
8. Protective box
9. Getting Started Guide
10. Screen-printed electrode
11. Test Sensor
12. USB disk for ECAS software and Manual

