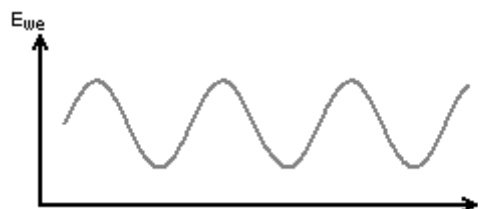


7.11. Potentio Electrochemical Impedance Spectroscopy technique

Technique ID: **104**

Instrument Series	VMP3	SP-300
File	peis.ecc	peis4.ecc
Timebase	24μs*	24μs*

* Timebase is for first process only.



7.11.1. Description

The Potentio Electrochemical Impedance Spectroscopy (PEIS) technique performs impedance measurements into potentiostatic mode in applying a sinus around a DC potential E that can be set to a fixed value or relatively to the cell equilibrium potential.

For very capacitive or low impedance electrochemical systems, the potential amplitude can lead to a current overflow that can stop the experiment in order to protect the unit from overheating. Using GEIS instead of PEIS can avoid this inconvenient situation.

Moreover, during corrosion experiment, a potential shift of the electrochemical system can occur. PEIS technique can lead to impedance measurements far from the corrosion potential while GEIS can be performed at a zero current.

7.11.2. Technique parameters

Technique parameters available for the function BL_LOADTECHNIQUE:

PEIS parameters			
Label	Description	Data types	Data range
vs_initial	Voltage step vs initial one	boolean	True/False
vs_final	Voltage step vs initial one	boolean	= vs_initial
Initial_Voltage_step	Initial voltage step (V)	single	-
Final_Voltage_step	Final voltage step (V)	single	= Initial_Voltage_step
Duration_step	Step duration (s)	single	[0..tb*2 ³¹]
Step_number	Number of steps minus 1	integer	= 0
Record_every_dT	Record every dt (s)	single	≥ 0
Record_every_dI	Record every dI (A)	single	≥ 0
Final_frequency	Final frequency (Hz)	single	Depend on instrument
Initial_frequency	Initial frequency (Hz)	single	Depend on instrument

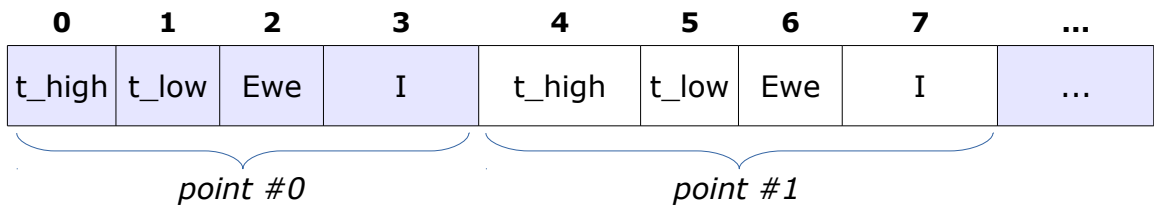
PEIS parameters

Label	Description	Data types	Data range
sweep	sweep linear/logarithmic (TRUE for linear points spacing)	boolean	True/False
Amplitude_Voltage	Sinus amplitude (V)	single	Depend on instrument
Frequency_number	Number of frequencies	integer	≥ 1
Average_N_times	Number of repeat times (used for frequencies averaging)	integer	≥ 1
Correction	Non-stationary correction	boolean	True/False
Wait_for_steady	Number of period to wait before each frequency	single	≥ 0

7.11.3. Data format

Data format depends of the technique process used to record data. The process index is returned in the field TDATAINFOS.PROCESSINDEX.

- Data format of process 0:



- Data format of process 1:

VMP3 Series:

