PguTouch H2

IPS
Elektroniklabor GmbH & Co. KG

Two *PguTouch H2* with a Devanathan and Stachurski cell

Overview

Potentiostat, Galvanostat

- Two PguTouch potentiostats/galvanostats:
  - one for charging
  - one for permeation measurement
- High resolution interface: 24 bit data acquisition, 26 bit scan resolution (330 nV)
- Communication via USB or Ethernet
- Main Power 24V via Plug-In Power supply or battery.
- In combination with a Devanathan cell a system for measuring hydrogen permeation through a (steel) plate can be established.

Description

The ***PguTouch H2*** setup consists of two *PguTouch* potentiostats/galvanostats in combination with a Devanathan cell. It is predesigned for the use with our double cell for investigation of the hydrogen permeation. One *PguTouch* serves as galvanostat for the charging side while the other device acts as potentiostat for the hydrogen permeation measurement.
For hydrogen permeation measurement, the devices are managed by the software. It controls the start/stop of the galvanostat when permeation will be undershot /exceed. A permeation measurement can be defined in advance and carried out automatically. This method can be repeated as many times as necessary.

A ***PguTouch*** includes a built-in measuring and automation system, the EcmWin measuring software and the evaluation software EcmView. The devices can be connected to a computer to our ***EcmWin Software*** and work like a normal potentiostat or the methods can be transferred which allow the stand-alone mode.

The connection to the computer is established via USB or Ethernet. The measuring module works with 24 bit A/D converters while the scanner works with 26 bit (step size 330nV).

Technical Details

Supply voltage	9–36 V DC via wide range desktop power supply Power supply: Input: 100–240 V, 50–60 Hz, 620 mA max. Output: 24 V DC 1.25 A.
Modes	Potentiostat and Galvanostat
Impedance analyzer	In preparation, available spring 2026
Electrode connections	2, 3 electrode (CE, RE, WE), 2 WE
Floating mode	Yes, switchable
Compliance voltage	±12 V
Maximum current	±300 mA
Polarization ranges	± 10 V potentiostatic, ±300 mA galvanostatic
Current ranges	10 ranges from 500 mA to 1 nA
Resolution	1 nA=1000 mV in 1 nA range, 1 pA=1 mV
Electrometer input impedance RE	10^{15} Ω
Bandwidth	100 kHz
ADC	24 bit, max. resolution 1µV
DAC	26 bit at ± 10 V → 330 nV steps
Accuracy of setvalue	< ±1 mV, ±0,01 %
Accuracy of measurement	< ±1 mV, ±0,01 %
Sample rate	Standard 100 Hz at 24 bit, 1000Hz at 16 bit
Interface	Ethernet, USB
Software	EcmWin, EcmView
Measurement	OCP, hold experiments, reversed scan cyclic voltammetry, chronoamperometry, sequence measurement with battery charging and discharging functions, measurement current density versus time, current density versus potential
Supply voltage	9–36 V DC via wide range desktop power supply, double galvanically isolated (in floating mode) Power supply: Input: 100–240 V, 50–60 Hz, 620 mA max. Output: 24 V DC 1.25 A.
Modes	Potentiostat and Galvanostat

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