PGU-10/20A

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Overview

High power Potentiostat/Galvanostat

- High-resolution interface: 24 bit data acquisition, 26 bit scan resolution (330 nV)
- Communication via Ethernet
- Control inputs and outputs for external scanner
- Voltage outputs for external measurement devices (oscilloscope)
- Automatic operation with built-in interface.
- Mains operation 230 V

Description

The **PGU-10/20A** units offer a wide range of applications, typical in electroplating (cathodic dip coating), anodizing of aluminium and battery research.

The device supplies a compliance voltage of ±12 V at a current of ±10/±20 A to the counter electrode. The polarization voltage is ±10 V (200/400 W). With 8 measuring ranges from 20 A to 10 µA, the user gets also reasonable values at lower currents.

Automation of measurement is realized via our software **EcmWin.** Standard measurement methods are: open circuit potential, potentiostatic/dynamic, galvanostatic/dynamic, pulse and hold experiments, reversed scan, cyclic voltammetry and sequence measurement (including battery load and unload methods).

All tests are performed with limit value monitoring. Data are recorded in ASCII format, so further processing of the results is uncomplicated. Data acquisition is performed with max. 1000 values/s per channel, storage with max. 1000 values/s per channel.

Technical Details

Supply voltage	115/230 V, 47–53 Hz, max. 3 A, IEC connector
Modes	Potentiostat and Galvanostat
Impedance analyser	Optional
Electrode connections	2, 3, 4, Electrode (CE, RE, WE, WE-Sense)
Floating mode	Yes, switchable
Compliance voltage	±12 V
Maximum current	±10 A / ±20 A
Polarization ranges	±10 V Potentiostat ±10 /±20 A Galvanostat.
Current ranges	8 steps from 20 A to 10 µA
Resolution	10 µA = 10000 mV in 10 µA range, 1 nA = 1 mV
Electrometer input impedance RE	$10^{13}\,\Omega$ / bandwidth 1 MHz
Bandwidth	20 kHz
ADC	24 bit, max. resolution 1 µV
DAC	26 bit at ±10 V → 330 nV steps
Resolution of setvalue	< ±1 mV, ±0,01%
Resolution of measurement	< ±1 mV, ±0,01%
Sample rate	Standard 200 Hz at 24 bit, 1 kHz at 16 bit
Interface	Ethernet
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
Additional inputs	2 BNC connectors for external scanner
Additional outputs	4 BNC for connection of instruments, output: potential, current, current with 10 Hz filter, current with x10 amplifier Current as ±10 V voltage