

Datasheet PGU-IMP-Micro

As part of a research project in 2002, we developed our new **PGU-series**. The aim of this development was to standardize the previous models of the IMP-series and the 1000 series in order to build them modular and flexible as well as to equip them with some additional features. Thereby we did not want to waive the tried, like the manual operation. Thus, the recent circuits were expanded with the function of automatic measuring range switching. In addition, the devices have been designed so that they can be equipped with an interface for the computer control.

The device design is very flexible and offers the possibility to build different types out of a base device.

The **PGU-IMP-Micro** is a special further development of our standard impedance potentiostat PGU 10V-1A-IMP-S. Partner and driving force is, as well as on previous projects, the IKTS in Dresden. The purpose was to build a potentiostat that can reliably measure high impedances. So far, we are in the position to reliably measure an impedance of 5 Terra-ohms with a parallel capacity of approximately 25pF. Aspired are 10 Terra-ohms. Currently this is only possible by special circuit measures. Thus, the device has no power amplifier, i.e. the input operational amplifiers also deliver equal the output signal. In addition, the input amplifier are twice present, once for high frequencies and once for high impedances at lower frequencies.



Data overview:

- Potentiostat, galvanostat
- Manual operation (restricted)
- Control in- and outputs for external control
- Fully automatic operation with built-in interface
- Mains operation, 115V / 230V

Details:

Modulation:	$\pm 12V / \pm 5mA$
Polarization range:	$\pm 10V$ potentiostat / $\pm 5mA$ galvanostat
Current ranges:	16 ranges from 5mA to 100pA
Resolution:	100pA = 10000mV in the 100pA range, 10fA = 1mV
Input resistance RE:	$10^{13} / 10^{15}\Omega$
Measurement outputs:	Potential, current, current with 40Hz filter, current with x10 amplifier
Inputs:	2 BNC connectors for external nominal potential
EIS:	Built-in sinus generator and high-speed data acquisition (5MS/s)