



**INQUIRY
Nr 32/WIM/PU/2020**

1. NAME AND ADDRESS OF THE CONTRACTING AUTHORITY

Warsaw University of Technology
Faculty of Materials Science and Engineering
02-507 Warsaw, 141 Wołoska Street
VAT No.: PL 525 000 58 34

2. OBJECTS OF THE CONTRACT

Potentiostat/galvanostat/ZRA

3. SPECIFICATION OF THE OBJECTS OF THE CONTRACT

The object of the contract is a delivery of brand new potentiostat/galvanostat/ZRA with operation modes available for the instrument:

- electrochemical AC measurements (impedance measurements);
- testing of single-cells and stacks of various batteries, fuel cells or supercapacitors (charge, discharge, cyclic charge-discharge, potentiostatic, galvanostatic, self-discharge, leakage rate, and read cell voltage);
- electrochemical DC measurements (polarization resistance, potentiodynamic, cyclic polarization);
- cyclic voltammetry;

Instrument features:

- minimum 2 electrode measurements;
- maximum applied potential: ± 32 V (minimum resolution 1 μ V, measurement/read accuracy: ± 1 mV $\pm 0.2\%$ applied/measured value);
- maximum compliance voltage: ± 32 V;
- maximum current: ± 3 A (minimum resolution >90 nA, measurement accuracy: ± 5 nA $\pm 0.05\%$ of the range);
- rise time: <250 ns;
- time base: in the range 3 μ s to 1000 s;
- built-in electrochemical impedance spectroscopy module for measurements in the frequency range from 10 μ Hz to 1 MHz (error $<1\%$) and signal and current amplitudes maximum 3 V and 3 A respectively;
- impedance measurements > 1 M Ω ;
- simultaneous measurement and registration of voltage on the counterelectrode (CE-RE) during electrochemical and EIS measurements;
- the ability to change the parameters without interrupting or stopping the measurement;
- electrical isolation;
- improved signal-to-noise and high accuracy of capacitance measurements; noise and ripple <10 μ V rms;
- operation controlled by a control unit - personal computer (PC) with MS Windows 7 64 bit or newer;
- connection and communication with the control unit (personal computer; PC) without requiring the installation of additional interface cards, via USB interface in a standard that allows acquisition and graphic visualization of measurement data in real time;

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- full kit of dedicated software enabling all measurement capabilities of the instrument, particularly all standard electrochemical measurements – potential- and current- controlled (potentiostat and galvanostat respectively), controlling the instrument, performing repeatable measurements, as well as recording, processing, visualization (in particular: Bode and Nyquist plots) and data analysis (fitting and simulation of equivalent circuit, Kramers-Kronig analysis);
- modular construction which enables extension of the measurement possibilities by installing new modules;
- a kit of BNC cables: min. 1,5 m long;
- user manual in English or Polish;
- 24 months factory service warranty;
- dimensions: length <25 cm, height <25 cm, depth <35 cm.

4. REQUIREMENTS

- Realization deadline: max. 8 weeks from date of the purchase order;
- The delivery will be confirmed with acceptance protocol signed by Supplier and Contractor;
- The invoice can be issued after signing of the acceptance protocol;
- The payment will be done within 14 days upon receipt of the invoice;
- Product will be delivered to **Warsaw University of Technology, Faculty of Materials Science and Engineering, Wołoska 141, room 309, Warsaw 02-507, Poland.**

5. DEADLINE, PLACE AND MANNER OF SUBMISSION OF OFFERS

Offers must be submitted not later than 06.07.2020 until 10 a.m. Offers must be submitted in electronic form to the address: zp30@pw.edu.pl, Tomasz.Wejrzanowski@pw.edu.pl
Offers should be prepared in Polish or English.

Contact Person: Tomasz Wejrzanowski, e-mail Tomasz.Wejrzanowski@pw.edu.pl , tel (+48) 22 234 87 42

6. ADDITIONAL INFORMATIONS

- 1) In order to ensure the comparability of all offers, the Contracting Authority reserves the right to contact the appropriate Tenderers in order to supplement or clarify the offers.
- 2) After selecting the Contractor, the Contracting Authority reserves the right to negotiate the terms of the contract.
- 3) The Ordering Party reserves the right to respond only to the selected offer.
- 4) This offer does not constitute an offer in accordance with art. 66 of the Civil Code, as well as it is not an announcement within the meaning of the Public Procurement Law.
- 5) The invitation is not a procurement procedure within the meaning of the Public Procurement Law and does not affect the Employer's commitment to accept any of the offers. Warsaw University of Technology The Faculty of Materials Science and Engineering reserves the right to cancel the order without choosing any of the submitted offers.
- 6) The Contracting Party stipulates that the overall offered price is public information within the meaning of the Act on access to public information and if the bidder reserves it as a trade secret or business secret, his offer will be rejected.
- 7) The Employer does not pay advances for the task. Payment is made after delivery / service.
- 8) The contracting authority can not to be held liable for any costs or expenses incurred in connection with the preparation and delivery of the offer.
- 9) Offers that will be received after the deadline will not be considered.

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- 10) The Ordering Party reserves the right to negotiate the terms of the order, as well as to annul the proceedings at any stage, without giving any reason and to cancel the order without giving reasons for the resignation.
- 11) The administrator of your personal data contained in the submitted offers and processed in the verification of offers is Warsaw University of Technology with its registered office in Warsaw 00- 661, ul. Plac Politechniki 1, (hereinafter: the Employer). Contact to the Data Protection Officer: iod@pw.edu.pl

Dziekan
Wydziału Inżynierii Materiałowej
Politechniki Warszawskiej
Prof. dr hab. inż. Jarosław Mizera

Warszawa 01.07.2020

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