**Battery tester Novonix**

completed by responsible coordinator of equipment

**Equipment: Battery tester Novonix**

**No. of Equipment:** *UPOL 16*

**Responsible coordinator: Mgr. Petr Jakubec, PhD.**

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**Equipment Description**

**Description of equipment:**

Novonix’s High Precision battery tester provides industry leading low noise and high accuracy source and measurement electronics catered to making precision measurements of coulombic efficiency. When used with a properly temperature-controlled cell, this system has the ability to measure coulombic efficiency with a precision of 20 ppm and accuracy of 50 ppm. Systems are designed to minimize inaccuracies and noise while operating in constant current or constant voltage mode during charge and discharge over the full load voltage range of 0―5 V. Novonix’s High Precision charger offers 8 channels for independent parallel testing of batteries and/or supecapacitors.

**Specification of expertise relevant to NanoEnviCz workpackages:**

**WP5**a,b

**Detailed description of expertise**

**Please, specify the main research topics connected with equipment**

 Energy storage applications including both batteries and supercapacitors

**Please, specify the secondary research topics connected with equipment**:

Charge storage mechanism, rate and cyclic stability of tested materials

**Keywords describing research area:** electrochemistry, energy storage applications, nanomaterials, supercapacitors, batteries

**Competence**

**Relevance for applied and industrial research:**

Estimation of charge storage properties in different materials via the application of specific conditions such as temperature, various electrolytes (aqueous vs. organic) etc. represents important knowledge in many industrial areas including for instance automotive or industrial development of novel electronic devices.

**Relevance for fundamental studies:**

Basic electrochemical evaluation of energy storage devices including both batteries and supercapacitors. Methods such as cyclic voltammetry, electrochemical impedance spectroscopy and galvanostatic charging/discharging can be fully employed for the evaluation of charge storage mechanism of tested materials. Moreover, data related to cyclic or rate stability can be easily provided.