

Application guides - introduction

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Application Guide: AGML00

Introduction

This series of application guides is designed to show the capabilities of the Solartron ModuLab system as applied to a variety of electrochemical applications including research on fuel cells, batteries, supercapacitors, nanotechnology, corrosion cells, coatings, sensors, microelectrodes and many other electrochemical cells. The guides may be used by sales personnel and customers.

ModuLab demonstrations without instruments

These guides are designed in such a way that they can be used to demonstrate ModuLab's capabilities even if instrumentation hardware is not available. Each guide contains the following sections:

- **Introduction** which explains the purpose of the experiment
- **Key system capabilities** which lists capabilities of the equipment that is used in each application
- **Equipment required** if the experiment is to be actually run (though in many cases this may not be necessary)
- **Connections** to the test cell
- **Experiment setup and notes** description of the software setup
- **Data presentation** example results
- **Conclusions**

The experiments and data associated with these guides may be viewed using ModuLab software which can be installed free of charge on your PC. A version of the software is available for installation from the ModuLab NPI *New Product Introduction* CDrom and the very latest version is available for free download from the Solartron Analytical website. When the software is installed, a project automatically loads into the navigation tree which contains two folders *Getting Started* and *Application Guides*. In the *Application Guides* folder you will find the guides together with their associated experiment setup and result files.

The project containing these guides is stored in *C:\My Data\ModuLab* and may be selected from within the ModuLab software by clicking *File: Open Project* and selecting the project name and directory.

A project tree will then be shown, which can be navigated to see the various setup and data files. If a graph file is clicked with the mouse, the appropriate graph is loaded and the cursors can be used to examine results in more detail, or the format of the results can be changed using the menu facilities in ModuLab software. There are also PDF files under each experiment that can be opened to read about experimental setup etc. Some experiments have associated files that can also be opened from the project tree.

ModuLab demonstrations with instruments

If the ModuLab hardware with appropriate options fitted is available, it is possible to run any of the experiments listed in the project tree by selecting the experiment and clicking on the run key on the menu bar. The new data files can either be overwritten or saved separately as preferred.

Equipment needed to run these demonstrations

- ModuLab software installed on the PC (refer to ModuLab system brochure for PC requirements).
- ModuLab potentiostat with appropriate options and test cells (refer to the equipment requirements in each guide).

Connections

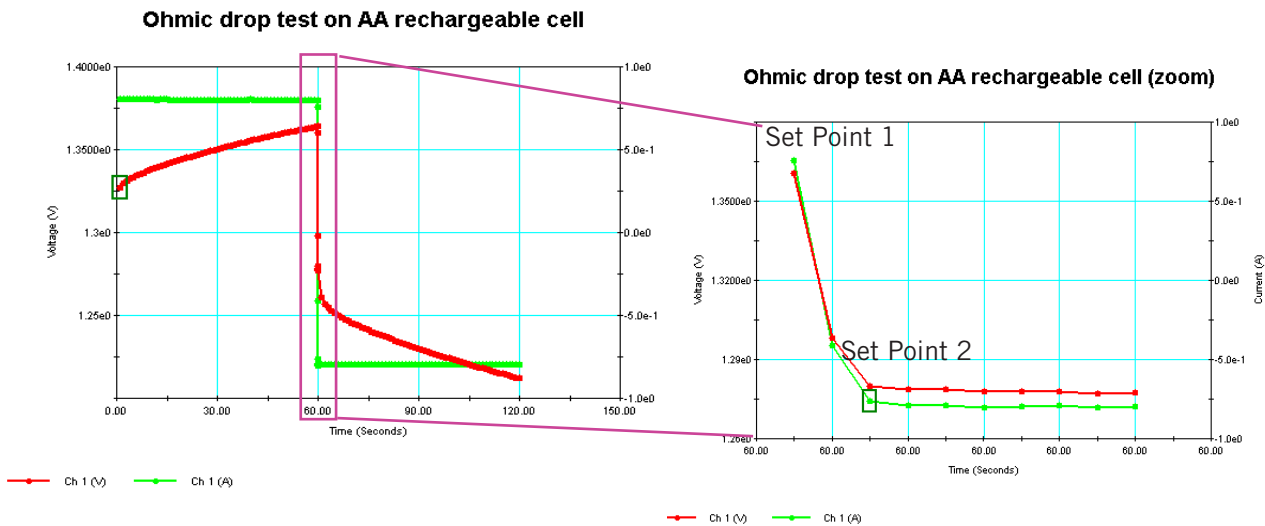
Follow the instructions in each guide carefully to connect to the test cell(s). Incorrect connections may result in cell damage so be careful to properly connect equipment to the test cells. Always verify that the correct cell has been connected before running an experiment.

Experiment Setup

Some details of the schedule and experiment setup are given in each demonstration guide, however for full details check the actual setup in the software. Points of special interest regarding the setup are noted in this section, for example, ideas for using loops to repeat parts of the sequence, or how to extend the necessarily brief demonstration tests into actual practical full length tests.

Data presentation and analysis

Example results are shown in each guide and may be examined even if there is no PC available to run the software and show results on screen. This allows customers to have a close understanding of how the equipment works without actually having access to demonstration equipment.



Other uses for the application guides

These are not only useful for demonstrating the capabilities of the software and instrumentation, they are also very useful "getting started" guides for customers to start becoming familiar once they have purchased the system. The demonstrations can easily be customized to their own specific tests to save setting up experiments from scratch.

We hope that these guides will give everyone an understanding of how the system works and what are its capabilities. Further demonstration guides will be added from time to time so please contact Solartron if you have ideas for additional guides or would like to check what is currently available.



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