

# **Quick Guide Omega Software**

#### STARTUP

- Turn on the instrument and the computer.
- Start the Omega Control software.
- Login with your password or just click 'Run' to login as "User".

To measure a microplate, you can either use the quick start function or you can execute a pre-defined test protocol.

### QUICK START

- 1. To measure a full plate in endpoint mode without defining a test protocol, click the 'Quick Start' button:
- 2. Select the measurement method. Choose the excitation and emission filters and the type of microplate that will be used.
- 3. A plate identifier (Plate ID) can also be specified (optional).
- 4. Start the measurement.

### **PROTOCOL DEFINITION**

- 1. To create a new test protocol or to edit an existing one:
  - Click the 'Manage Protocols' button:
  - Double click the **protocol name** to edit an existing protocol or click **'New**' to create a new protocol. Choose the *Measurement Method* (FI, FP, TRF, luminescence, absorbance) and choose the *Reading Mode*:
    - End point for single readings
    - Plate mode for slow kinetics
    - Well mode for fast kinetics
    - Well scan for scanning (useful if you use large wells and if the samples are not equally distributed)
- **2.** Inside the protocol definition window:
  - Enter a protocol name.
  - Choose the **microplate** being used (Greiner, Corning, Nunc, etc.).
  - Select between rapid or precise measurement, depending on your assay.
  - *Plate Mode Kinetics:* Type in the **no. of cycles** (how many times the reader will cycle through the plate).
  - Well Mode Kinetics: Type in the **no. of intervals** (how many times the reader will read the well).
  - Choose the excitation and emission filters to be used.
  - Select the 'Layout' sheet. Enter the position of samples, blanks and standards (if any).
  - If standards and/or reagent dispenser(s) are used, type in the values in the 'Concentrations / Volumes / Shaking' window.
  - Click the '**Check timing**' button. This gives you the smallest possible cycle time (*Plate Mode*) or interval time (*Well Mode*). A longer time can be achieved by typing in a higher value in the '**Basic Parameters**' sheet.

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Quick

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Manage

Protocols



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**MEASURING** (executing pre-defined protocols)

- 1. Click the 'Start Measurement' button: Start Measurement' button:
- 2. It is possible to define up to three plate identifiers in the 'Gain Adjustment / PlateIDs' sheet.
- In the 'Gain Adjustment / PlateIDs' sheet, select the well that will have the highest intensity and click the 'Gain adjustment' button:
  - The **required value** should be 90% in endpoint readings (giving highest values around 260000 10% = 234000).
  - For kinetic measurements, 10% 50% could be the required value (this is dependent on the expected increase in the signal).

Current State

4. Click the 'Start measurement' button.

### RESULTS

- **1.** To see the measurement results during a reading:
  - Click the 'Current State' button. Different display options are available, e.g. curve, spectra...

**2.** To perform data calculations using the MARS Data Analysis software:

• Close the 'Current State' window.



- Click the 'MARS' button: Mars
- 3. In the 'Manage Test Runs' window:
  - Double click the test name of the test run to be analyzed
- 4. Analyze the measured data:
  - Select the data to be displayed in the working area with the navigation tree (Data Node) on the left side of the main window.
  - Use the standard calculation wizard to perform a quick curve fit calculation; or use the calculation menus to define what is to be calculated and to be displayed.
  - To see a standard curve, open the 'Standard Curve' page. The calculated unknowns are displayed in the 'Microplate View' and the 'Table View'.
  - To remove outliers, simply shade them out in the 'Microplate View' using the toggle function (Ctrl –T).
  - For kinetic measurements (more than one measured cycle or interval), choose the range(s) of interest (**Calc. Start** and **Stop**) and the data values from these ranges can be evaluated using a kinetic calculation.



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