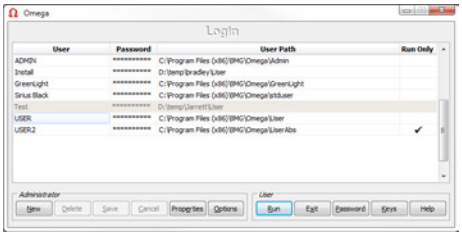
Quick Guide Omega Software

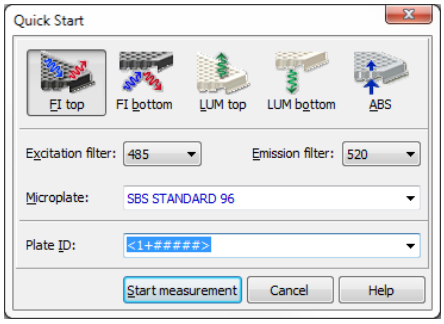
STARTUP



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

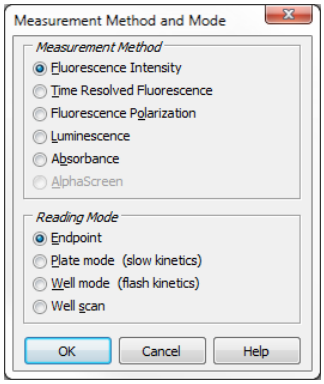
To measure a microplate, you can either use the quick start function or you can execute a pre-defined test protocol.

QUICK START

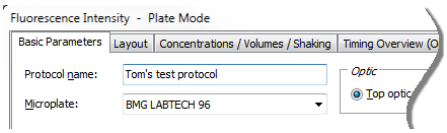


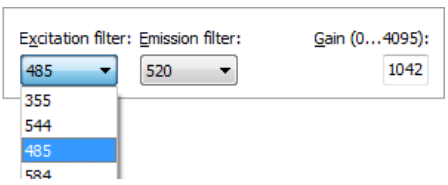
1. To measure a full plate in endpoint mode without defining a test protocol, click the '**Quick Start**' button:
2. Select the measurement method. Choose the **excitation** and **emission filters** and the type of **microplate** that will be used.
3. A plate identifier (**Plate ID**) can also be specified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

PROTOCOL DEFINITION

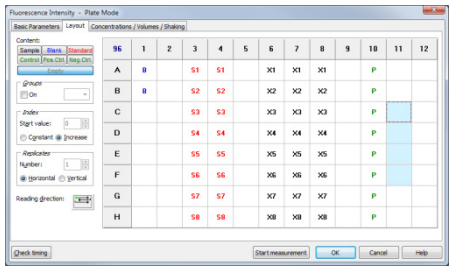


1. To create a new **test protocol** or to edit an existing one:
   - Click the '**Manage Protocols**' button:
   - Double click the **protocol name** to edit an existing protocol or click '**New**' to create a new protocol. Choose the *Measurement Method* (FI, FP, TRF, luminescence, absorbance) and 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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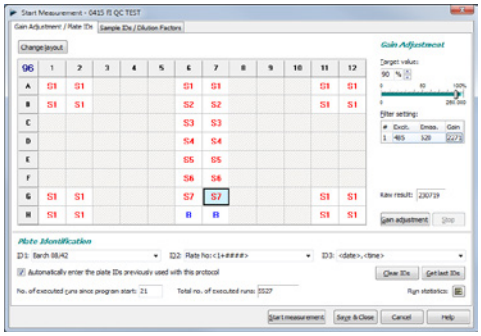
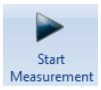
MEASURING *(executing pre-defined protocols)*



1. Click the '**Start Measurement**' button: 

2. It is possible to define up to three plate identifiers in the '**Gain Adjustment / PlateIDs**' sheet.

3. In the '**Gain Adjustment / PlateIDs**' sheet, select the well that will have the highest intensity and click the '**Gain adjustment**' button:

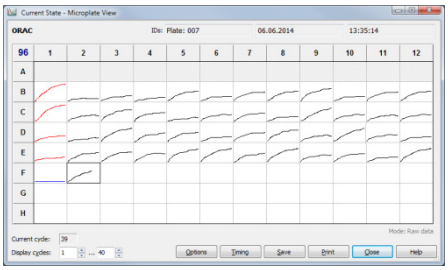
- The **required value** should be 90% in endpoint readings (giving highest values around 260 000 - 10% = 234 000).
- For kinetic measurements, 10% - 50% could be the required value (this is dependent on the expected increase in the signal).

4. Click the '**Start measurement**' button.

RESULTS

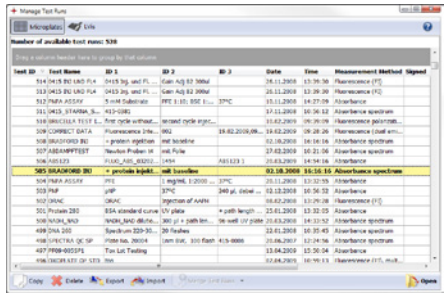
1. To see the measurement results during a reading:

- Click the '**Current State**' button.
  Different display options are available, e.g. curve, spectra...



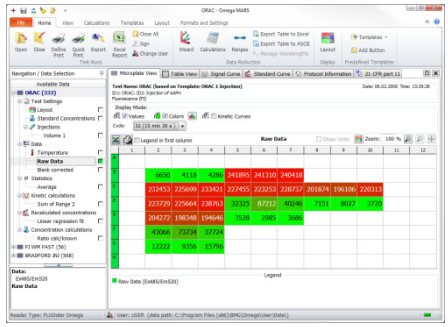
2. To perform data calculations using the **MARS Data Analysis** software:

- Close the '**Current State**' window.
- Click the '**MARS**' button: 



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.