

# OD600 DiluPhotometer<sup>™</sup> Protein Quantification Software Installation and User Manual

Version 1.3





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#### SUMMARY OF FEATURES

- The OD600 DiluPhotometer<sup>™</sup> Protein Quantification Software is an application running under Windows that enables one or more spectrophotometers to transfer data into a PC environment.
- From there the user has a selection of choices; the data can be both printed and saved.
- Creation of standard curves (single, double and triple measurements); calculation of Protein Concentrations (single, double and triple measurements).

#### REQUIREMENTS

Before starting the installation process ensure the following requirements are met:

- PC must be running Windows 7, 8, 10, Office 2010.
- A minimum of 100 MB hard drive space and 512 MB RAM is needed for the OD600 software.
- To install the OD600 software the installer should be logged into Windows<sup>™</sup> with full administration rights. If you have insufficient privileges, installation may fail. To check whether you have sufficient rights check the following screen. If in doubt consult your PC administrator.

Start >Control Panel > User Accounts.

Use the list below computer, and	ow to grant or deny use to change passwords a	ers access to your nd other settings.	
User Name	Domain	Group	Must be
Administrator	8	Administrators	Administrat
Administrator	CND4290W93	Administrators	
ASPNET	CND4290W93	Users	
<b>Chowings</b>	CND4290W93	Administrators 🌙	
Chowings	B	Administrators	
Fred	CND4290W93	Users	
🔝 john	CND4290W93	Administrators	×
Password for Fred	Add R	emove Propertie	5
	[	Reset Password	



## INTRODUCTION

The OD600 software is designed to transfer data from the OD600 DiluPhotometer<sup>TM</sup> to a PC. For direct data transfer the instrument can be linked to a computer via serial cable or an USB connection. The OD600 Software is necessary for setting up the connection.

- The OD600 Software is a small application running under Windows to enable the transfer of up to 99 measurements from a OD600 DiluPhotometer<sup>™</sup> into a PC environment. From there the user has different choices; the data can be both printed and saved.
- The OD600 Software allows creating standard curves for colorimetric protein assays (e.g. Bradford) with up to 20 standards. The user can choose between single, double and triple measurements, change the type of standards and the unit.
- The user can calculate up to 99 protein concentrations by single measurements. Double and triple measurements are also possible.

### 1. INSTRUMENT CONNECTION:

Step 1: Create a new folder (Implen) on your hard disk (C) and copy the rxtx.dll into the folder:

Windows: C:\Implen

Name	Туре
🔊 rxtx.dll	Application Extension

Step 2: Preparation of ports and connection of the OD600 DiluPhotometer<sup>™</sup> This process is given as guidance only; it may need adaptation for other systems. Attach the provided USB to RS232 adapter cable to your OD600 DiluPhotometer<sup>™</sup> and to the COM port of your PC.

Step 3: Go to the control panel → system → hardware → device manager and check the assigned COM-port ("USB Serial Port (COM)") for your OD600 DiluPhotometer<sup>TM</sup>. The port should be in range of 1 - 10. If a COM-port is assigned higher than 10 please change the COM-port to one in the range of 1 - 10.

Change of COM-port:

Double-click the COM-port Go to Port Settings  $\rightarrow$  Advanced Change the COM-number to one in the range of 1 - 10

# 2. DOWNLOAD DATA:

Open the Protein Quantification Software and enable Macros. The software will be automatically ready for use.

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**Step 1:** Click the "Download Data" button.

Step 2: The window OD600 interface will be opened.

Step 3: Please select the defined COM-Port of your instrument

depending on the connection you have chosen.

connected port during the software is running.

With the Refresh button you can actualize the status of the available interfaces e.g. if you change the

OD600 DiluPhotometer™ IMPLEN measured values (99 max) Download Data Standards Samples OD600 - Interface **OD600 Quantification** IMPLEN © 2009 by - IMPLEN - www.imple com available interfaces COM1: free 6 COM2: free C C COM3: free COM4: not available / busy COM5: not available / busy COM6: not available / busy COM7: not available / busy COM8: not available / busy Refresh Status Read Values Exit



**Step 4:** Click the "Read Values" button. The message "Press 'OK' and then press 'print' on device within 20 seconds" will appear. Press OK and then press the recall/print button on your OD600 DiluPhotometer<sup>™</sup>.

The memory (MEM) number on the display of your OD600 DiluPhotometer<sup>TM</sup> is flashing during data transfer.

Attention: Be sure that the memory number on the display of your OD600 DiluPhotometer<sup>TM</sup> is not flashing at the beginning of step 4. If it is flushing press the mem or blank button once.

		$\mathbf{X}$
IMPL	OD600 Quantification © 2009 by - IMPLEN - www.implen.com	
	available interfaces	
R	COM1: free 📀	
	COM2: free	
	COM3: free	
	COM4: not available / busy	
	Microsoft Excel	
	Press 'Ok' and then press 'print' on device within 20 seconds	
	ОК	
	COM8: not available / busy	
	Refresh	
Status	Opened COM port 1 Read Values	
	Exit	

- **Step 5:** Stored data will be transferred automatically into the measured values table. After transfer the message "Transfer finished" appears. Click OK.
- Step 6: Exit the OD600 Interface window by Exit.

0D600 - Interfa	ace	X
	OD600 Quantification © 2009 by - IMPLEN - www.implen.com	
	available interfaces	٦
500	COM1: free 📀	
·	COM2: free	
-	COM3: free O	
	COM4: not available / busy	
	Microsoft Excel	
	Transfer finished. Read 5 valid data sets (6 s).	
	ОК	
	COM8: not available / busy	
	Refresh	
		_
Status	Data transfer finished. Read Values	
	Exit	

## **3. STANDARD CURVE CREATION**

After completion of the data transfer into the Protein Quantification Makro your standard curve can be created the following way:

Step 1 Press the Standards-button and insert the Number of standards.

- Step 2 Insert the Type of your standard like BSA, IGG etc.
- Step 3 Insert the Unit of your standard.
- Step 4 Choose the possible Number of replications which are: single/double/triple measurement.
- Click Set Number of Standards to continue. Step 5
- Step 6 Insert the concentration values of your standard (c1, c2, c3...). Press Enter to confirm each value or use the arrow buttons to choose the next standard. You can always return to the main-page by pressing the button Cancel
- Step 7 Press Continue to select the OD-standard-values from the transferred data list.



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Number of Stand	ards:	7	Set Number of Standards
Type of Standard (BSA, BGG, etc)	l: [	BSA	Continue
Unit:		c [µg/ml]	Reset
Number of replica	itions:		
Double Measure	ment	-	Cancel
Insert the values	for your s	standards:	
	50		
	100		
	300		
	c5		
	c6		



Step 8 For standard single measurement: select all values at once.



- Step 9 For standard double/ triple measurement: select the values for each standard concentration one after the other.
- Step 10 For all: the absorbance values can be selected in free or direct order. For the selection of non-neighbouring values use the control button. Press Enter to transfer the data in the standard table.
- Step 11 After selecting all necessary data press Accept.

An appropriated result-sheet with the chosen user values of the standard will be opened automatically, including the selected data in a table form and the standard curve itself as graph. For sample analysis press the **Sample**-button to return to the main-page.







#### 4. SAMPLE ANALYSIS

- Step 1 Press the Samples-button and insert the Number of samples.
- **Step 2** Insert the **Unit** of your standard if necessary.
- Step 3 Select the possible Number of replications: single/double/triple measurement.
- Step 4 Select the previously calculated Standardsheet (standard single/double/triple) in the list.
- **Step 5** Press **Continue** to select the OD-sample-values from the transferred data-list.

nple User		
MPLEN @	OD600 ( 2009 by - IM	<b>Quantification</b> PLEN - www.implen.com
Number of Samples: (2-100)	10	Continue
Unit:	c [µg/ml]	Cancel
Number of replications:		
Double Measurement	-	
Sheet:		
Standard Double	-	
Standard Single		
Standard Double		

Select and transfer data according the standard-curve creation (see page 9). After selecting all necessary data press **Accept**. An appropriate result-sheet with the calculated sample-concentrations of the user will be opened automatically in table form.



Sample values which are out of the standard-curve (MW OD) range will be marked red in the results-sheet and can be deleted. If you want to save your results-sheet please press **Save Sheet**. Then your data can be saved as Excel file in the appropriate folder inside your system.