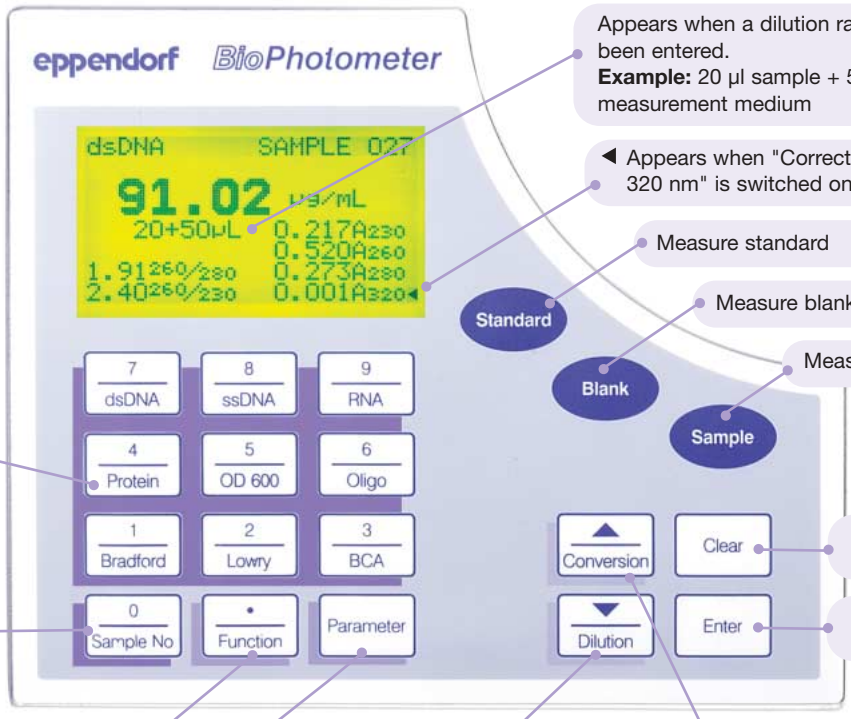
BioPhotometer – Short instructions

Overview

These short instructions do not replace the operating manual. Please read the detailed operating manual first.

Switch on/off: Switch on the mains switch on the back side of the BioPhotometer. The device is immediately ready to measure.



Appears when a dilution ratio has been entered.
Example: 20 µl sample + 50 µl measurement medium

◀ Appears when "Correction with 320 nm" is switched on.

Measure standard

Measure blank

Measure sample

Delete entry

Confirm entry

- Call up desired method.
  Peculiarity: Two methods each for Bradford, Lowry and BCA have been stored (Example: BCA/BCA micro). It is possible to switch back and forth between the methods by repeatedly pressing the method key.
- Or: Enter desired digit.

- Change sample number. Confirm new entries with ENTER.
- Or: Enter 0 digit.

- Call up the function level:
  - "Display results"
  - "Calibration report"
  - Date and time
  - "Stored absorbance"
  - "Precision measurement"
  - "Photometer test" (UV-VIS test filter)
  - Language
  - Printer

  Select desired function with cursor and confirm with ENTER. The functions "Display results", "Calibration report" and "Stored absorbance" can be printed out at any time by repeatedly pressing the "Enter" key.
  Exit the respective function at any time by repeatedly pressing the "Function" key. This also applies for exiting the function level.
- Or: Enter point.

- Enter dilution ratio. Confirm all entries with ENTER.
  Exit the menu at any time by pressing the "Dilution" key repeatedly.
- Or: Move cursor into the previous line.

- Calculate molar concentration and total quantity of the sample (yield). Confirm all entries with ENTER.
  Exit the menu at any time by pressing the "Conversion" key repeatedly.
- Or: Move cursor into the next line.

- Call up parameter level:
  - Calculation procedure (extinction, factor, standard, etc.)
  - Number entry for factor
  - Number entry for standard nominal value, number of repeat measurements etc.
  - Correction with 320 nm on/off
  - Concentration unit (molar unit as well)
  - Optical path length of cuvette

  Select parameter with cursor and confirm with ENTER. Confirm manual entries with ENTER.
  Exit the parameter level at any time by repeatedly pressing the "Parameter" key.

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Method procedure and programming

The following applies for all methods

- **Measurement of a diluted sample:**

Prior to sample measurement [Dilution]

Enter the sample and measurement buffer volume (in µl). Confirm the entries each time with ENTER.

- **Changing parameters for the calculation of the result:**

Prior to blank measurement [Parameter]

Select desired parameters with cursor and confirm with ENTER. Also confirm number entries with ENTER.
Note: The number of decimal places of the programmed factor determines the number of decimal places in the result.

Measuring nucleic acids

The description applies for the dsDNA, ssDNA, RNA and oligo methods

- **Example dsDNA:**

[7 dsDNA]	[Blank]	[Sample]	[Sample]
Call up method	Measure blank	Measure sample	Measure next sample

- **If the concentration has to be converted into molar concentration and/or total quantity (unit of mass or unit of mol):**

[Conversion]

Following the sample measurement

Confirm all entries with ENTER. Input fields can be skipped with ENTER.

Direct photometric measurement of protein

It is possible to program the following calculation methods using the "Parameter" key: Extinction, factor, standard (one-point calibration), Warburg formula.

[4 Protein]	[Blank]	[Sample]	[Sample]
Call up method	Measure blank	Measure sample	Measure next sample

- **If a standard is to be re-recorded:**

[4 Protein]	[Parameter]
Call up method	Prior to measuring the blanks

Select parameter for standard calibration with cursor and confirm with ENTER. Also confirm number entries with ENTER.

[Blank]	[Standard]
Measure blank	Measure standard

Note: The number of decimal places of the programmed standard nominal concentration determines the number of decimal places in the result.

Measuring proteins with reagent

The description applies for the Bradford, BCA and Lowry methods, as well as the relevant micro-methods. It is possible to program the following calculation methods using the "Parameter" key: Standard, factor, extinction.

- **Example BCA:**

Call up method | Measure blank | Measure sample | Measure next sample

- **If a standard curve is to be re-recorded:**

Call up method | Before measuring blank

Select parameter for standard curve calculation with cursor and confirm with ENTER. Also confirm number entries with ENTER.

Measure blank | Measure standard | Measure next standard

The CV of the measurement appears automatically in the display upon conclusion of all standard measurements. If the CV is < 10 %, the calibration will be saved automatically. If the CV is > 10 %, the question "STORE? ENT/CLR" will appear and the calculated calibration can be accepted or deleted.
Note: The number of decimal places of the programmed nominal concentration of the first standard determines the number of decimal places in the result.

Measuring OD 600

Call up method | Measure blank | Measure sample | Measure next sample

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