UV / VIS Spectrophotometer

Single Beam
Double Beam
NANO

EMC-11S-UV Spectrophotometer

EMCLAB
Instruments - Germany

made in
Germany

EMCLAB
instruments - Germany

Product Overview

Model	EMC-11D-V	EMC-11S-V	EMC-11-UV	EMC-11S-UV	EMC-18S-UV	EMC-61PC-UV	EMC-61PCS-UV	EMC-NANO-UV
	Page 4	Page 5	Page 6	Page 7	Page 8	Page 9	Page 10	Page 11
Single beam	✓	✓	✓	✓	✓			✓
Double beam						✓	✓	
Spectral bandwidth	4 nm	4 nm	4 nm	4 nm	2 nm	1.8 nm	0.5/1/2/4/5 nm	4 nm
Wavelength range	325-1000 nm	325-1000 nm	200-1000 nm	200-1000 nm	190-1100 nm	190-1100 nm	190-1100 nm	190-1100 nm
Calibration certificate	✓	✓	✓	✓	✓	✓	✓	✓
Cell holder positions	4	4	4	4	4	1+1	1+1	1
Audit Trail software (page 15)	○	○	○	○	○	○	○	○
IQ/OQ/PQ			○	○	○	○	○	○
PC Software (Windows®)								
BASIC software (page 18)	✓		✓					
PROFESSIONAL software (page 18)			○					
EASY UV BASIC software (page 18)		✓		✓	✓			
EASY UV software (page 18)		○		○	○			
ANALYST software (page 19)						✓	✓	✓
Accessories (page 12)								
8-position cell changer					○	○	○	
Peltier/Sipper plug in					○	○	○	
Calibration filter set	○	○	○	○	○	○	○	○

PC Software (Windows®)	BASIC	PROFESSIONAL	EASY UV BASIC	EASY UV	ANALYST
Photometric measurement	✓	✓	✓	✓	✓
Kinetic measurement	✓	✓	✓	✓	✓
Quantitative measurement	✓	✓	✓	✓	✓
DNA/Protein		✓		✓	✓
Wavelength scan		✓		✓	✓
Dongle (USB-Software key)		✓		✓	✓

✓ = included
○ = optionally

EMCLAB Spectrophotometers are tested with DAkkS (German body of accreditation) certified UV/VIS Reference Materials NIST traceable:
• **Photometric Accuracy**
• **Wavelength Accuracy**
• **Spectral Resolution**
• **Stray Light**
All EMCLAB Spectrophotometers are supplied with EMCLAB Works Calibration Certificate

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Features:
- LCD screen (128*64 dots)
- Manual setting wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. PC software BASIC (Quantitative, Kinetics, Photometry Measurement)
- Incl. EMCLAB Works Calibration Certificate

Model	EMC-11D-V
Wavelength Range	325-1000 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, grating 1200 lines/mm
Wavelength Accuracy	±2 nm
Wavelength Repeatability	1 nm
Photometric Accuracy	≤±0.5 % T or ±0.003A@1A
Photometric Repeatability	≤0.2 % T
Photometric Range	0-200 % T, -0.3 - 3A, 0-1999 Conc
Photometric Mode	T, A, C, F
Stray Light	0.3 % T
Stability	±0.002A/h@500 nm
Noise	0.003A@500 nm
Detector	Silicone Photodiode
Display	LCD 128*64 dots
Central beam height	15 mm
Standard Cell Holder	4-position cell holder 10x10 mm
Light Source	Tungsten lamp
Output	USB port & Parallel port (printer)
Power Requirement	AC 85V~265V 50/60 Hz
Dimensions (LxWxH)	440 x 340 x 200 mm
Weight	8 kg

Features:
- Color TFT screen
- Self-check system
- Fast choose wavelength
- Auto setting wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. PC software EASY UV BASIC (Quantitative, Kinetics, Photometry Measurement)
- Incl. EMCLAB Works Calibration Certificate

Optionally available:
- PC software EASY UV (Quantitative, Kinetics, Wavelength Scan, Multi-Wavelength, DNA/Protein, Energy Scan)
- Windows® Pad
- IQ/OQ/PQ documentation
- Audit Trail PC software (FDA 21 CFR part 11 compliant)

Model	EMC-11S-V
Wavelength Range	325-1000 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, grating 1200 lines/mm
Wavelength Accuracy	±2 nm
Wavelength Repeatability	1 nm
Photometric Accuracy	≤±0.5 % T or ±0.004A@1A
Photometric Range	0-200 % T, -0.3 - 3A 0-1999 conc.
Photometric Repeatability	≤0.2 % T
Photometric Mode	T, A, C, F
Stray Light	0.2 % T
Stability	±0.004A/h@500 nm
Baseline Flatness	±0.001A (200-1000 nm)
Noise	0.003A@500 nm
Detector	Silicone Photodiode
Display	Color TFT screen
Central beam height	15 mm
Standard Cell Holder	4-position cell holder 10x10 mm
Light Source	Tungsten lamp
Output	USB port & Parallel port for printer
Power Requirement	AC 85V~265V 50/60 Hz
Dimensions (LxWxH)	440 x 350 x 200 mm
Weight	8 kg

Features:
• LCD screen (128*64 dots)
• Self-check system
• Auto setting wavelength
• Auto Zero and Blank
• Sample compartment for different cell holders
• Save the results
• Up to 200 methods & 100 standard curves can be stored
• Incl. PC software BASIC (Quantitative, Kinetics,
  Photometry Measurement)
• Incl. EMCLAB Works Calibration Certificate

Optionally available:
• PC software PROFESSIONAL (Quantitative, Kinetics, Wavelength Scan,
  Multi-Wavelength, DNA/Protein, Energy Scan)
• Windows® Pad
• IQ/OQ/PQ documentation
• Audit Trail PC software (FDA 21 CFR part 11 compliant)

Model	EMC-11-UV
Wavelength Range	200-1000 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, grating 1200 lines/mm
Wavelength Accuracy	±2 nm
Wavelength Repeatability	1 nm
Photometric Accuracy	≤0.5 % T or ±0.003A@1A
Photometric Repeatability	≤0.2 % T
Photometric Range	0-200 % T, -0.3 - 3A, 0-9999 Conc.
Stray Light	0.2 % T
Stability	±0.002A/h@500 nm
Noise	0.003A@500 nm
Detector	Silicone Photodiode
Display	LCD 128*64 dots
Central beam height	15 mm
Standard Cell Holder	4-position cell holder 10x10 mm
Light Source	Tungsten & Deuterium lamp
Output	USB port & Parallel port (printer)
Power Requirement	AC 110/230V 50/60 Hz
Dimensions (LxWxH)	490 x 376 x 220 mm
Weight	14 kg

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Features:
- Color TFT screen
- Self-check system
- Fast choose wavelength
- Auto setting wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. PC software EASY UV BASIC (Quantitative, Kinetics, Photometry Measurement)
- Incl. EMCLAB Works Calibration Certificate

Optionally available:
- PC software EASY UV (Quantitative, Kinetics, Wavelength Scan, Multi-Wavelength, DNA/Protein, Energy Scan)
- Windows® Pad
- IQ/OQ/PQ documentation
- Audit Trail PC software (FDA 21 CFR part 11 compliant)

Model	EMC-11S-UV
Wavelength Range	200-1000 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, grating 1200 lines/mm
Wavelength Accuracy	±2 nm
Wavelength Repeatability	1 nm
Photometric Accuracy	≤±0.5 % T or ±0.005A@1A
Photometric Range	0-200 % T, -0.3 - 3A 0-19999 conc.
Photometric Repeatability	≤0.2 % T
Photometric Mode	T, A, C, F
Stray Light	0.2 % T
Stability	±0.004A/h@500 nm
Baseline Flatness	±0.001A (200-1000 nm)
Noise	0.003A@500 nm
Detector	Silicone Photodiode
Display	Color TFT screen
Central beam height	15 mm
Standard Cell Holder	4-position cell holder 10x10 mm
Light Source	Tungsten & Deuterium lamp
Output	USB port & Parallel port for printer
Power Requirement	AC 85V~265V 50/60 Hz
Dimensions (LxWxH)	440 x 350 x 200 mm
Weight	9 kg

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Features:
- Color TFT screen
- Self-check system
- Auto setting wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Save the results
- Up to 200 methods & 100 standard curves can be stored
- Incl. PC software EASY UV BASIC (Quantitative, Kinetics, Photometry Measurement)
- Incl. EMCLAB Works Calibration Certificate

Optionally available:
- PC software EASY UV (Quantitative, Kinetics, Wavelength Scan, Multi-Wavelength, DNA/Protein, Energy Scan)
- Windows® Pad
- IQ/OQ/PQ documentation
- Audit Trail PC software (FDA 21 CFR part 11 compliant)

Model	EMC-18S-UV
Wavelength Range	190-1100 nm
Spectral Bandwidth	2 nm
Optical System	Single Beam, grating 1200 lines/mm
Wavelength Accuracy	±0.5 nm
Wavelength Repeatability	0.3 nm
Photometric Accuracy	≤±0.5 % T or ±0.005A@1A
Photometric Range	0-200 % T, -0.3 - 3A 0-9999 conc.
Photometric Repeatability	≤0.2 % T
Photometric Mode	T, A, C, F
Stray Light	0.05 % T
Stability	±0.001A/h@500 nm
Baseline Flatness	±0.001A (200-1000 nm)
Noise	0.003A@500 nm
Detector	Silicone Photodiode
Display	TFT color screen
Central beam height	15 mm
Standard Cell Holder	4-position cell holder 10x10 mm
Light Source	Tungsten & Deuterium lamp
Output	USB port & Parallel port for printer
Power Requirement	AC 110/230V 50/60 Hz
Dimensions (LxWxH)	490 x 380 x 220 mm
Weight	11 kg

Features:
- Double Beam
- LCD screen (320*240 dots)
- Self-check system
- Auto setting wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. USB memory stick for methods and results
- Incl. PC software ANALYST
  (Quantitative, Kinetics, Photometry Measurement, Wavelength Scan,
  Multi-Wavelength, DNA/Protein, System Utilities)
- Incl. EMCLAB Works Calibration Certificate

Optionally available:
- Windows® Pad
- IQ/OQ/PQ documentation
- Audit Trail PC software (FDA 21 CFR part 11 compliant)

Model	EMC-61PC-UV
Wavelength Range	190-1100 nm
Spectral Bandwidth	1.8 nm
Optical System	Double Beam, grating 1200 lines/mm
Wavelength Accuracy	±0.3 nm
Wavelength Repeatability	0.2 nm
Photometric Accuracy	≤±0.5 % T or ±0.005A@1A
Photometric Range	0-200 % T, -0.3 - 3A
Photometric Repeatability	≤0.001A (0-0.5A), ≤0.002A (0-0.5A) ≤0.15 % T (0-100%)
Scan Speed	Hi, MED, LOW, MAX. 3000 nm/min
Stray Light	0.05 % T
Stability	±0.001A/h@500 nm
Baseline Flatness	±0.001A (200-1000 nm)
Noise	0.0003A@500 nm
Detector	Silicone Photodiode
Display	LCD 320*240 dots
Central beam height	15 mm
Standard Cell Holder	2 x Single cell holder 10x10 mm
Light Source	Tungsten & Deuterium lamp
Output	USB port A for USB memory stick
	USB port B for PC connectivity
	Parallel port for printer
Power Requirement	AC 110/230V 50/60 Hz
Dimensions (LxWxH)	589 x 428 x 240 mm
Weight	22 kg

Features:
- Double Beam
- Variable bandwidths 0.5/1/2/4/5 nm
- LCD screen (320*240)
- Self-check system
- Auto setting wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. USB memory stick for methods and results
- Incl. PC software ANALYST
  (Quantitative, Kinetics, Photometry Measurement, Wavelength Scan,
  Multi-Wavelength, DNA/Protein, System Utilities)
- Incl. EMCLAB Works Calibration Certificate

Optionally available:
- Windows® Pad
- IQ/OQ/PQ documentation
- Audit Trail PC software (FDA 21 CFR part 11 compliant)

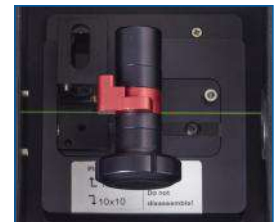| Model	EMC-61PCS-UV
Wavelength Range	190-1100 nm
Spectral Bandwidth	0.5/1/2/4/5 nm
Optical System	Double Beam, grating 1200 lines/mm
Wavelength Accuracy	±0.3 nm
Wavelength Repeatability	0.2 nm
Photometric Accuracy	≤±0.5 % T or ±0.005A@1A
Photometric Range	0-200 % T, -0.3 - 3A
Photometric Repeatability	≤0.001A (0-0.5A), ≤0.002A (0-0.5A) ≤0.15 % T (0-100%)
Scan Speed	Hi, MED, LOW, MAX. 3000 nm/min
Stray Light	0.05 % T@220, 340 nm
Stability	±0.001A/h@500 nm
Baseline Flatness	±0.001A (200-1000 nm)
Noise	0.0003A@500 nm
Detector	Silicone Photodiode
Display	LCD 320*240
Central beam height	15 mm
Standard Cell Holder	2 x Single cell holder 10x10 mm
Light Source	Tungsten & Deuterium lamp
Output	USB port A for USB memory stick
	USB port B for PC connectivity
	Parallel port for printer
Power Requirement	AC 110/230V 50/60 Hz
Dimensions (LxWxH)	589 x 428 x 240 mm
Weight	24 kg

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Features:
- LCD screen (320*240 dots)
- Self-check system
- Auto setting wavelength
- Auto Zero and Blank
- Unique Flip cell holder 2 in 1 for NANO volume and standard cells
- 0.2 ~ 2.5 μl sample volume for DNA, RNA, PCR, protein
- Incl. USB memory stick for methods and results
- Incl. PC software ANALYST
  (Quantitative, Kinetics, Photometry Measurement, Wavelength Scan, Multi-Wavelength, DNA/Protein, System Utilities)
- Incl. EMCLAB Works Calibration Certificate
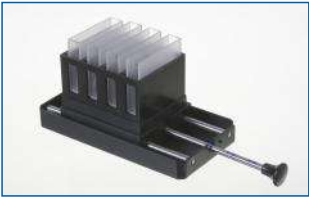
Optionally available:
- Windows® Pad
- IQ/OQ/PQ documentation
- Audit Trail PC software (FDA 21 CFR part 11 compliant)

The unique Flip cell holder for NANO volume and standard cells:
- Simple to use
- NANO cell holder optical path length 0.5 mm
- Cell holder for standard cells optical path length 10 mm
- Horizontal light path - high precision - no loss of energy

Model	EMC-NANO-UV
Wavelength Range	190-1100 nm
Spectral Bandwidth	4 nm
Optical System	Single Beam, grating 1200 lines/mm
Wavelength Accuracy	±0.5 nm
Wavelength Repeatability	0.3 nm
Photometric Accuracy	≤0.5 % T or ±0.004A@1A
Photometric Repeatibility	≤0.001A (0-0.5A), ≤0.002A (0-0.5A) ≤0.5 % T (0-100%)
Photometric Range	0-200 % T, -0.3 - 3A, 0-9999 Conc.
Scan Speed	Hi, MED, LOW – MAX: 3000nm/min
Stray Light	0.05 % T@220, 340 nm
Stability	±0.002A/h@500 nm
Baseline Flatness	±0.002A (200-1000 nm)
Noise	0.0005A@500 nm
Detector	Silicone Photodiode
Display	LCD 320*240 dots
Central beam height	15 mm
Flip Cell Holder	0.2~2.5 μl and cell 10 mm path length
Light Source	Tungsten & Deuterium lamp
Output	USB port A for USB memory stick
	USB port B for PC connectivity
	Parallel port for printer
Power Requirement	AC 110/230V 50/60 Hz
Dimensions (LxWxH)	490 x 370 x 220 mm
Weight	14 kg

Cell Holder	Description	Art. No.
	4-position cell holder for cells 10x10 mm, without slider	EMC-00020
	4-position cell holder for cells up to 50 mm, without slider 4-position cell holder for cells up to 100 mm, without slider	EMC-00021 EMC-00019
	1-position cell holder for cells 10x10 mm	EMC-00023
	1-position cell holder water-jacketed for cells 10x10 mm 4-position cell holder water-jacketed for cells 10x10 mm, without slider (not for EMC-11 series)	EMC-00024 EMC-00025
	8-position auto cell changer for cells 10x10 mm (not for EMC-11 series)	EMC-00029
	1-position cell holder for cells up to 100 mm	EMC-00045
	1-position cell holder for solid samples up to 2-5 mm thickness 2-position cell holder for solid samples up to 2-5 mm thickness	EMC-00099 EMC-00101

Without the illustrated accessories (slider, plates, cells) / other accessories on request

Peltier/Sipper System	Description	Art. No.
	Peltier Sipper System EMC-PSA 1, 10°C - 60°C, incl. thermostat-controlled 1-position cell holder and flow through cell 10x10 mm (not for EMC-11 series)	EMC-00125
	Peltier System EMC-PSA 2, 10°C - 60°C, incl. thermostat-controlled 1-position cell holder for cells 10x10 mm (not for EMC-11 series)	EMC-00148
	Sipper System EMC-PSA 3, incl. 1-position cell holder and flow through cell 10x10 mm (not for EMC-11 series)	EMC-00149

Fig. EMC-PSA 1

Lamps	Description	Art. No.
	Halogen (Tungsten) lamp 6V10W (only for EMC-11D-V & EMC-11S series)	EMC-00011
	Halogen (Tungsten) lamp 12V/20 W (only for EMC-11-UV & EMC-18S-UV)	EMC-00012
	Halogen (Tungsten) lamp 12V/20W (only for EMC-6 series)	EMC-00013
	UV Deuterium lamp	EMC-00039
	UV Deuterium lamp type 2 for EMC-11S-UV	EMC-00130

Cells	Description	Art. No.
	Glass / Quartz glass cells on request	

Without the illustrated accessories (slider, plates, cells) / other accessories on request

UV/VIS Calibration filter set with EMCLAB Works Calibration Certificate for maintenance and service

The EMC-SET-100 for testing the wavelength accuracy and photometric accuracy enable the user to check their measurement results. The EMC-SET-100 is supplied with EMCLAB Works Calibration Certificate of Secondary Spectrometric Calibration Standards.

UV/VIS reference materials for testing:
• Wavelength accuracy
• Photometric accuracy

Glass filter set for testing wavelength accuracy (W) and photometric accuracy (A):

Art. No.	Filter	Wavelength (nm)
EMC-SET-100	Holmium Oxide glass filter H1	W*: 279; 361; 453; 536; 638 nm
	Neutral density glass filter N2, 0.25 Abs.	A*: 440; 465; 546.1; 590; 635 nm
	Neutral density glass filter N3, 0.5 Abs.	A*: 440; 465; 546.1; 590; 635 nm
	Neutral density glass filter N4, 1.0 Abs.	A*: 440; 465; 546.1; 590; 635 nm
	Empty filter mount N0	

*A= Wavelength for absorbance
*W= Wavelength for wavelength accuracy

EMCLAB Audit Trail Software (Windows®)

provides secure access of storage results and features compliant with 21 CFR Part 11.

System access requires a user name and password which are assigned by the workgroup manager/administrator. Individual user access levels determine the access to administrative tools which include instrument configuration, analysis applications, user setup, setup and security policies as well as system and application history logs.

For every file version the recorded information is saved (time logged, time created, time last written, deleted, user and manually recorded comments).

EMCLAB Audit Trail is made for

- Monitoring of file modification
- Documentation of changes made by the user
- In specific directories
- Including subdirectories

AUDIT TRAIL

EMC-11D-V

Mode A - Absorbance
Measured values are displayed in absorbance (Abs).

Mode T - Transmission
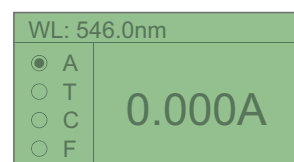Measured values are displayed in transmission (%T).

Mode C - Concentration
A standard sample with known concentration is used to calculate the concentration of the measured sample.

Mode F - Factor
The coefficients K and B of the standard curve equation C=K*A+B are used to calculate the concentration of the measured sample.
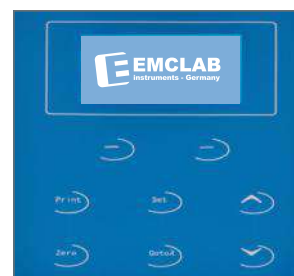

Display

Main menu

EMC-11-UV

Basic
Measurements of absorbance, transmission or concentration.
Display and save up to 200 values.

Quantitative
A standard sample with known concentration is used to calculate the concentration of the measured sample.

Utility
Switch lamps on/off, adjust test mode, dark current refresh, wavelength reset, version information

Display

Main menu

EMC-11S-V/UV

A **Absorbance measurement** Measure the absorbance value of the sample.

T **Transmissivity measurement** Measure the transmission of the sample.

C **Concentration measurement against a standard sample**
A standard curve through zero is defined by measuring the absorbance value of a standard sample and entering the corresponding concentration. The concentration of the unknown sample is calculated using the standard curve.

F **Concentration measurement using the equation coefficients**
A standard curve is defined by entering the coefficients K and B of the standard curve equation C=K*A+B, and the standard curve is used to measure the concentration of the unkown sample.

E **Energy measurement** For the verification of light source, monochromator and detector.

System General system information

Display

Main menu

EMC-18S-UV

Photometry Measure the absorbance or transmission value of the sample.

Quantitation The concentration of the unknown sample is calculated using a standard curve.
   a) Standard sample: Measure or enter the absorbance value of a standard sample and enter the corresponding concentration value to define a standard curve.
   b) Equation coefficients: A standard curve is defined by entering the coefficients K and B of the standard curve equation $C = K*A + B$.
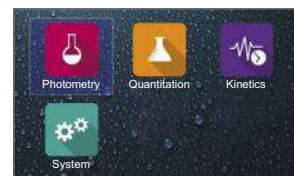
Kinetics Measure the photometric value change with time of the sample.

System General system information and settings (e.g. turn lamps on/off, set date and time).

Display

Main menu

EMC-6-series and NANO

Main menu: The on-board software includes the following functions: photometry (basic mode), quantitation, wavelength scan, kinetics, DNA/Protein, multiwavelength, system utility.

Quantitation: Define a standard curve using up to 10 standards and choose from 4 curve fitting methods:
1. Linear function
2. Linear function through zero
3. Square function
4. Cubic function

Wavelength scan: Choose scan intervals (0.5 to 5 nm), scan speed, as well as the photometric mode to display the spectrum (wavelength/absorbance or wavelength/transmission).

Post processing options include rescaling of axes, curve tracking and determining peaks.

Kinetics: Absorbance vs time diagrams are displayed in real time. Choose time intervals (0.1 to 60 sec.), delay time as well as the photometric mode to display the curve (absorbance/time or transmission/time).

Post processing options include rescaling of axes, curve tracking and determining the part of the curve required for the rate calculation. The reaction rate is calculated with a linear regression algorithm.
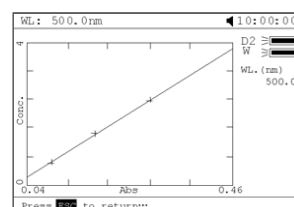
DNA/Protein: Determine DNA/protein concentration at 260 nm/280 nm or 260 nm/230 nm with optional subtracted absorbance at 320 nm.

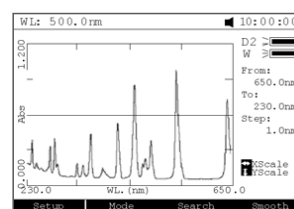Optionally other wavelengths and factors may be entered.

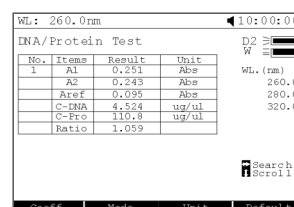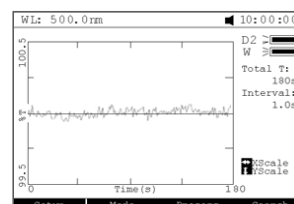**Multi-wavelength:** Measure multiple samples with up to 10 wavelengths.
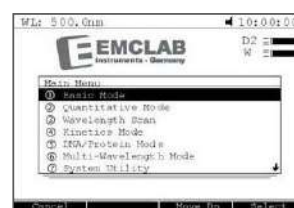
Main menu

Quantitative Measurement

Wavelength scan

Kinetics

DNA/Protein

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PC software BASIC for the series EMC-11
PC software EASY UV Basic for the series EMC-11S and EMC-18S

PC software based on Microsoft Windows. The spectrophotometer can be controlled by the PC software through the built-in USB communication port, which adds new functions to the UV/VIS series and facilitates operation. The software includes the following functions:

Quantitative: Use up to 20 standards to define a standard curve and choose from 3 methods for curve fitting:
1. Linear function
2. Linear function through zero
3. Cubic function

Kinetics: For reaction rate calculation or time course scanning.
Absorbance vs time diagrams are displayed in real time.

Photometry: The test result can be displayed in absorbance or transmission.

Audit Trail PC software compliant with FDA 21 CFR Part 11 optionally available.
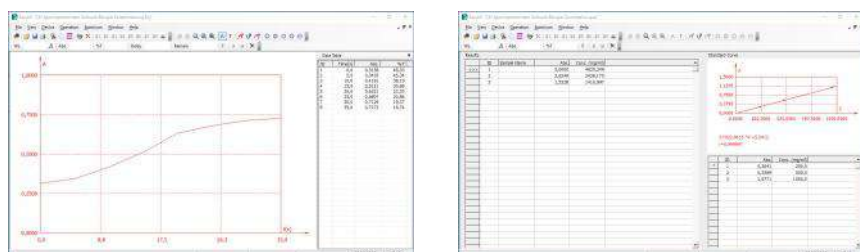
PC software PROFESSIONAL for EMC-11-UV
PC software EASY UV for the series EMC-11S and EMC-18S

PC software based on Microsoft Windows. The spectrophotometer can be controlled by the PC software throught the built-in USB communication port, which adds new functions to the UV/VIS series and facilitates operation. The software includes the following functions:

Quantitative: Establish a standard curve: Enter or measure 20 standards or enter the standard curve equation using coeffcents. Choose from 3 curve fitting methods:
1. Linear function
2. Linear function through zero
3. Cubic function

Wavelength scan: Choose scan intervals (0.1 to 5 nm), scan speed as well as the photometric mode to display the spectrum (wavelength/absorbance or wavelength/ transmission).
Post processing options include i.a. rescaling of axes, curve smoothing, determining peaks and calculating derivatives.

Kinetics: For reaction rate calculation or time course scanning. Absorbance vs time diagrams are displayed in real time. Choose time intervals (0.5 to 3600 sec.), delay time as well as the photometric mode to display the curve (absorbance/ time or transmission/time).
Post processing options include rescaling of axes, curve tracking and deriviation.

Multi-wavelength: Enter up to 20 wavelengths to test multiple samples.

DNA/Protein: Determine DNA/protein concentration at 260 nm/280 nm or 260 nm/230 nm with optional subtracted absorbance at 320 nm. Optionally other wavelengths and factors may be entered.

Energy scan: For the verification of light source, monochromator and detector.

Audit Trail PC software compliant with FDA 21 CFR Part 11 optionally available.
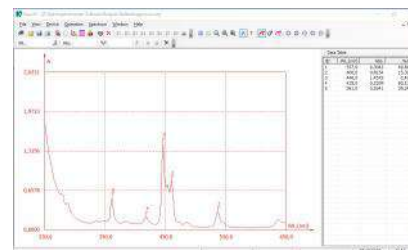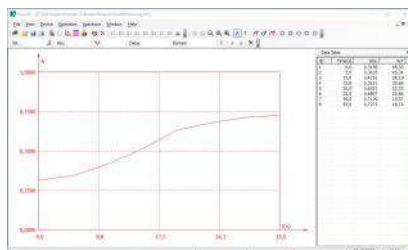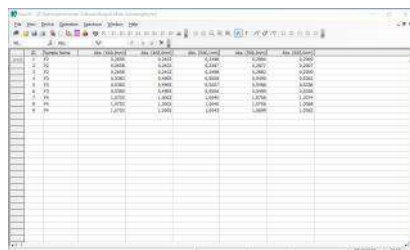
PC software ANALYST for EMC-6 series & EMC-NANO

The Analyst PC software enhances the functions and data processing and expands the storage capacity.
The software includes the following functions:

Quantitative: Select only one wavelength in the 'method ' tab in order to quantitatively calculate the measurement results using a standard curve. Enter or measure up to 20 standards to define a standard curve or enter the function of the standard curve using coefficients. Choose from 4 curve fitting methods:
1. Linear function
2. Linear function through zero
3. Square function
4. Cubic function

Wavelength scan: Choose scan intervals (0.1 to 5 nm), scan speed as well as the photometric mode to display the spectrum (wavelength/absorbance or wavelength/ transmission).

Post processing options include i.a. rescaling of axes, curve smoothing, determining peaks and calculating derivatives.
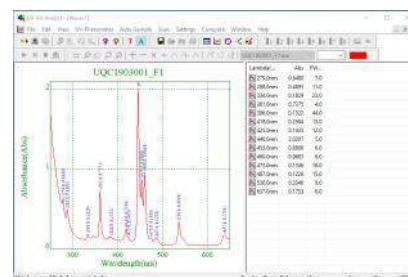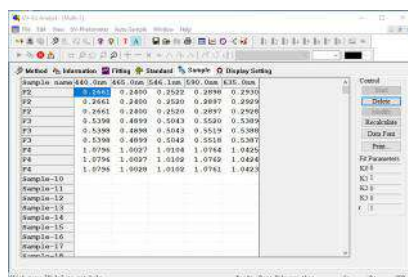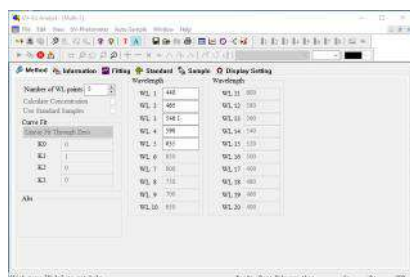
Kinetics: Absorbance vs time diagrams are displayed in real time. Choose time intervals (0.1 to 60 sec.), delay time as well as the photometric mode to display the curve (absorbance/ time or transmission/time).
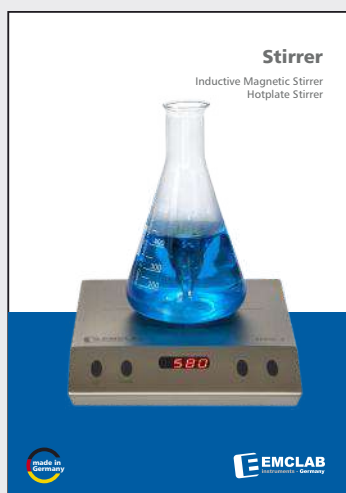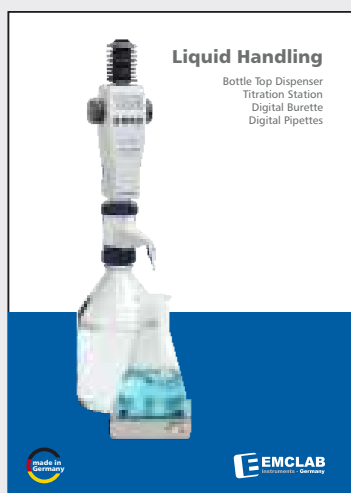
Post processing options include rescaling of axes, curve tracking and determining the part of the curve required for the rate calculation. The reaction rate is calculated with a linear regression algorithm.

DNA/Protein: Determiniation of the DNA/protein concentration of the sample using common methods. Optionally other wavelengths and factors may be entered.

Multi-wavelength: Up to 20 different wavelengths can be entered to measure a number of samples.

Audit Trail PC software compliant with FDA 21 CFR Part 11 optionally available.

Liquid Handling

Bottle Top Dispenser
Titration Station
Digital Burette
Digital Pipettes

Stirrer

Inductive Magnetic Stirrer
Hotplate Stirrer

Laboratory Autoclaves

EMC-ACH 23
EMC-ACH 29
EMC-ACH 45

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Technical changes reserved

EMC-Spectrophotometer_092020_E