

UV / VIS

Spectrophotometer

Single Beam
Double Beam
Split Beam



Our Company

Product Range

Since the beginning, the core business of EMCLAB Instruments GmbH has been the production and distribution of spectrophotometers. We expanded locally, corporally, and globally. That way we broadened our range of products successfully. EMCLAB relocated 2018 into a more spacious bureau accommodation with bigger manufacture premises and storage. Additionally, we hired new staff from different domains to broaden our knowledge and expanded our market overseas as well.

Quality

EMCLAB Instruments established a quality management system according to DIN/EN/ISO 9001:2015, and ISO 13485:2016. Continual improvement and development are integral and fundamental parts of our company policy. In addition, EMCLAB Instruments offers optionally IQ/OQ/PQ for our UV/VIS spectrophotometers to further strengthen our quality management.

Certified Partner Program

We have developed the "Certified Partner Program" to build a strong network with distributors and customers. This program includes a sales and service training as well as support with demo units of our products.

Market

Our products are being deployed in chemical, food and beverage, pharmaceutical and environmental laboratories and are used for R&D as well as for QC. Our global market spans across Europe, the Middle East, Asia, and Africa.



Join us in shaping the future of spectrophotometry—where precision meets innovation.

Product Overview

	 page 4	 page 5	 page 6	 page 7
Model	EMC-11S-V	EMC-11S-UV	EMC-11-UV	EMC-18S-UV
Single beam	✓	✓	✓	✓
Split beam				
Double beam				
Spectral bandwidth	4 nm	4 nm	4 nm	2 nm
Wavelength range	325-1000 nm	200-1000 nm	200-1000 nm	190-1100 nm
Calibration certificate	✓	✓	✓	✓
Cell holder positions	4	4	4	4
IQ/OQ/PQ				○
PC Software (Windows®)				
EMC-λ Lambda software (page 18)	✓	✓	✓	✓
ANALYST software (page 19)				
Audit Trail software (page 20)	○	○	○	○
Accessories (page 13)				
Peltier/Sipper plug in				○
Auto cell changer (10mm)				○
Cell changer up to 20mm	○	○	○	○
Cell changer up to 50 mm	○	○	○	○
Cell changer up to 100mm	○	○	○	○
Magnetic cell changer	○	○	○	✓
Calibration filter set	○	○	○	○
Article No.	EMC-80017	EMC-80027	EMC-80028	EMC-80034

✓ = included

○ = optionally

			
page 8	page 9	page 10	page 11
EMC-61PC-UV	EMC-61PCS-UV	EMC-4FLASH²	EMC-Mini2go
			✓
✓	✓	✓	
1.8 nm	0.5/1/2/4/5 nm	2 nm	20 nm
190-1100 nm	190-1100 nm	190-1100 nm	Fix
✓	✓	✓	✓
4+1	4+1	4	1
○	○	○	
			PC and mobile App
✓	✓	✓	
○	○	○	
○	○	○	
○	○	○	
○	○	○	
○	○	○	
○	○	✓	
○	○	○	
EMC-80070	EMC-80080	EMC-80091	EMC-80092

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



Features:

- Color TFT screen
- Self-check system
- Fast choose wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. PC Software EMC-λ Lambda (Wavelength Measurement, Spectrum Scan, Quantitative Measurement, Kinetic Measurement, DNA/RNA Measurement)
- Incl. EMCLAB Works Calibration Certificate



Our lightest spectrophotometer is especially popular for use in education due to its easy operation and simple functionality. It covers standard photometric and quantitative applications. With the PC software EMC-λ Lambda, kinetic measurements and wavelength scans can also be performed with the instrument.

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 0-9999 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 (325-1000 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
Article No.	EMC-80017

Features:

- Color TFT screen
- Self-check system
- Fast choose wavelength
- Auto Zero and Blank
- Sample compartment for different cell holders
- Incl. PC Software EMC-λ Lambda (Wavelength Measurement, Spectrum Scan, Quantitative Measurement, Kinetic Measurement, DNA/RNA Measurement)
- Incl. EMCLAB Works Calibration Certificate



The additionally installed deuterium lamp enables the 11S-UV, in contrast to the 11S-V, to also measure within the UV range of the light spectrum. It is therefore suitable for applications that need to cover a greater variability of samples. Kinetic measurements and wavelength scans can also be performed with the instrument via the PC software EMC-λ Lambda.



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 0-9999 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
Article No.	EMC-80027

Features:

- LCD screen (128*64 dots)
- Self-check system
- 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 EMC-λ Lambda (Wavelength Measurement, Spectrum Scan, Quantitative Measurement, Kinetic Measurement, DNA/RNA Measurement)
- Incl. EMCLAB Works Calibration Certificate



The 11-UV is widely used in colleges and enterprises for general quantitative analysis and experiments. The instrument's internal storage offers space for up to 100 standard curves and 200 methods. Via the PC software EMC-λ Lambda, kinetic measurements and wavelength scans can also be performed with the instrument.

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
Article No.	EMC-80028

Features:

- Color TFT screen
- Self-check system
- Auto Zero and Blank
- Sample compartment for different cell holders
- Saves the results
- Up to 200 methods & 100 standard curves can be stored
- Incl. PC-Software EMC-λ Lambda (Wavelength Measurement, Spectrum Scan, Quantitative Measurement, Kinetic Measurement, DNA/RNA Measurement)
- Incl. EMCLAB Works Calibration Certificate

Magnetic Quick Change Cell Holder included



The 18S-UV combines the easy use of the S-series with more comprehensive features of the larger instruments. Wavelength scans and kinetic measurements can be performed directly with the instrument. The instrument's internal storage provides space for up to 100 standard curves and 200 methods.

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 Quick change cell holder 10x10 mm (page 12)
Light Source	Tungsten & Deuterium lamp
Output	USB port & Parallel port for printer
Power Requirement	AC 85 V~265 V 50/60 Hz
Dimensions (LxWxH)	490 x 380 x 220 mm
Weight	11 kg
Article No.	EMC-80034

Features:

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

With this device, samples and reference are measured simultaneously. This ensures fast and precise measurement results. Variables and values can be entered accurately via the keypad and graphs can be shown directly on the large display. Methods and measurement results can be saved on the instrument's internal storage or an external USB stick.

This instrument features a port for the optionally available Peltier/Sipper System (p. 13).



Magnetic Quick Change Cell Holder optional



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, 0-9999 conc.
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	4-position cell holder + 1 reference 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
Article No.	EMC-80070

Features:

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



Magnetic Quick Change Cell Holder optional



Similar to the 61PC-UV, the 61PCS-UV is a double beam photometer, making it particularly fast and precise. Due to the variable bandwidth, the 61PCS-UV offers maximum freedom in the selection of methods. It is therefore particularly suitable for use in the pharmaceutical sector.

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, 0-9999 conc.
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	4-position cell holder + 1 reference 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
Article No.	EMC-80080

Features:

- 5 Inch color touch screen
- Self-check system, split beam
- Split beam Auto Zero and Blank
- Sample compartment for different cell holders 10-, 20-, 50-, 100mm
- Saves the results
- Up to 200 methods & 100 standard curves can be stored
- Incl. PC-Software EMC-λ Lambda (Wavelength Measurement, Spectrum Scan, Quantitative Measurement, Kinetic Measurement, DNA/RNA Measurement)
- Incl. EMCLAB Works Calibration Certificate



Magnetic Quick Change Cell Holder included



The EMC-4FLASH² combines the easy use of the S-series with more comprehensive features of the larger instruments. Wavelength scans and kinetic measurements can be performed directly with the instrument. The instrument's internal storage provides space for up to 100 standard curves and 200 methods.

Model	EMC-4FLASH ²
Wavelength Range	190-1100 nm
Spectral Bandwidth	2 nm
Optical System	Split Beam
Wavelength Accuracy	±0.5 nm
Wavelength Repeatability	≤0.2 nm
Photometric Accuracy	0, ±0.003A@0.5~1A or ±0.5%@0-100%T
Photometric Range	0-200 % T, -0.3 - 3A 0-9999 conc.
Photometric Repeatability	≤0.2 % T@0-100%, ≤0.002@0-0.5A
Photometric Mode	T, A, C, F
Stray Light	≤0.05 % T@340nm, ≤0,005%T@220nm
Stability	±0.001A/h@500 nm
Baseline Flatness	±0.002A (200-1000 nm)
Noise	0,0001@0.0A (260 nm)
Detector	Dual Silicone Photodiode
Display	5" color screen
Central beam height	15 mm
Standard Cell Holder	4-position Quick Change cell holder 10x10 mm (page 12)
Light Source	Xenon flash lamp
Output	USB port & Parallel port for printer
Power Requirement	AC 85 V~265 V 50/60 Hz
Dimensions (LxWxH)	490 x 380 x 220 mm
Weight	11 kg
Article No.	EMC-80091

Features:

- Wirelessly operated
- Lightweight
- Compatible with standard and micro volume cuvettes (10x10mm)
- Usable with Android, iOS and Windows Devices



The EMC-Mini2go is a versatile, portable spectrophotometer designed for on-the-go analysis, delivering fast, accurate results in the field. Compact and lightweight, it can be powered by cable or battery and conveniently operated through any Android or iOS smartphone. It is therefore particularly suitable for use in agriculture, environmental monitoring, and water testing.

Model	EMC-Mini2go
Wavelength	Fix (340~1000nm)
Spectral Bandwidth	20 nm
Optical System	Single Beam, Single Wavelength
Photometric Accuracy	$\pm 0.005A$ @0~0.5A, $\pm 0.01A$ @0.5~1A, $\pm 0.8\%T$ @0~100%T
Photometric Range	-0.3~3A, 0~200%T
Photometric Repeatability	$\leq 0.003A$ @0~0.5A, $\leq 0.005A$ @0.5~1A $\pm 0.2\%T$ @0~100%T
Photometric Mode	Abs, %T, Conc
Photometric Resolution	0.05 % T
Photometric Linearity	0.5%
Standard Cell Holder	10mm Cuvette
Light Source	LED
Software	App based on Android IOS and Windows®
Communication Interface	Bluetooth, USB
Power Requirement	Input: 100~240V AC, Output: DC 5V/500mA or 3x Battery AA
Dimensions (LxWxH)	100 x 100 x 63 mm
Weight	230g
Article No.	EMC-80092

Introducing the Revolutionary Magnetic Quick Change Cell Holders

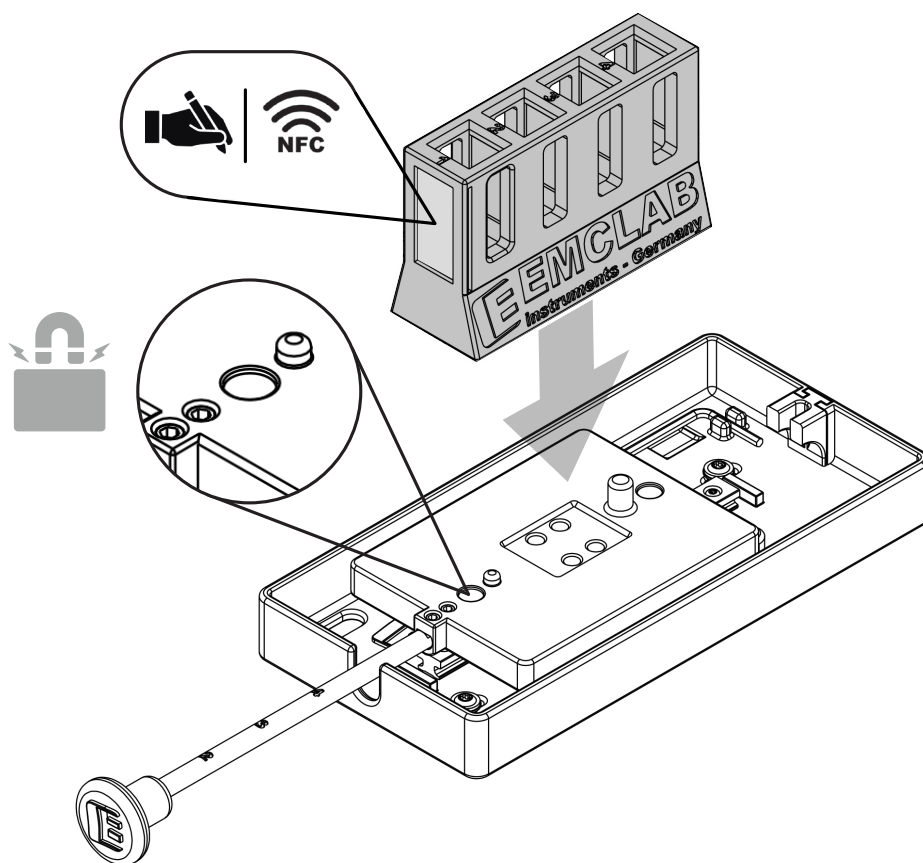
Upgrade your UV/VIS spectrophotometry workflow with our new Magnetic Quick Change Cell Holders. Using a unique magnetic system, this solution allows quick transitions between different cell sizes without tools or realignment.

Key benefits include:

- Fast & Flexible: Switch cell sizes effortlessly with no adjustments needed.
- Batch Convenience: Swap pre-prepared sets of 4 or 8 cuvettes at once.
- Perfect Alignment: Magnetic design ensures precise beam centering every time.
- Smart technology: Built in NFC chip for marking and identification.

Exclusively developed by us, this revolutionary holder is the first of its kind. Say goodbye to the hassle of traditional cell holders and step into a new era of efficiency and accuracy.

See the following technical drawing to enhance your workflow and increase efficiency today.



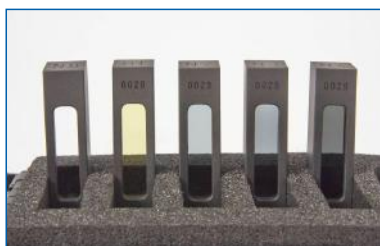
Cell Holder	Description	Art. No.
	Slider 4 - magnetic slider for easy installing Cuvette slider for 4-position Quick Change cell holder 10x10 mm, 10x50 mm, 10x100 mm, without Quick Change cell holder, incl. cell holder rod	EMC-00301
	Slider 8 - magnetic slider for easy installing Cuvette slider for 8-position Quick Change cell holder 10x10 mm, without Quick Change cell holder, incl. cell holder rod	EMC-00302
	4-Position Quick Change Cell Holder 10x10 For four cuvettes of the size 10x10 mm	EMC-00304
	8-Position Quick Change Cell Holder 10x10 For eight cuvettes of the size 10x10 mm	EMC-00305
	4-Position Quick Change Cell Holder 10x50 For four cuvettes of the size 10x50 mm	EMC-00306
	Cell Insert 20 Top cover for 4-position Quick Change cell holder 10x50 mm, for usage of 10x20 mm cuvettes	EMC-00303
	4-Position Quick Change Cell Holder 10x100 For four cuvettes of the size 10x100mm	EMC-00307
	Including programmable NFC chip. Additional cell holders on request.	

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

The EMC-SET-100 for testing wavelength accuracy and photometric accuracy enables 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	Parameter	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		

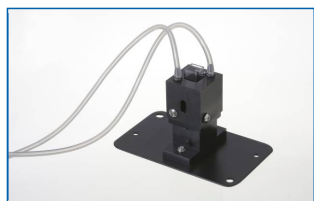
*W = Wavelength for wavelength accuracy

*A = Wavelength for absorbance

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 6V/10W (only for 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 type 1	EMC-00039
	UV Deuterium lamp Economy	EMC-00017
	UV Deuterium lamp type 2 for EMC-11S-UV	EMC-00130

Cell Holder	Description	Art. No.
	1-position cell holder water-jacketed for cells 10x10 mm	EMC-00024
	4-position cell holder water-jacketed for cells 10x10 mm, without slider (not for EMC-11 series)	EMC-00025
	1-position cell holder for solid samples up to 2-5 mm thickness	EMC-00099
	2-position cell holder for solid samples up to 2-5 mm thickness	EMC-00101

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

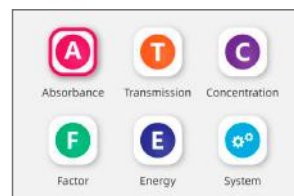
Without the illustrated accessories (slider, plates, cells) / other accessories on request

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 $C=K \cdot A+B$, and the standard curve is used to measure the concentration of the unknown sample.
- E** **Energy measurement** For the verification of light source, monochromator and detector.
-  **System** General system information



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-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.

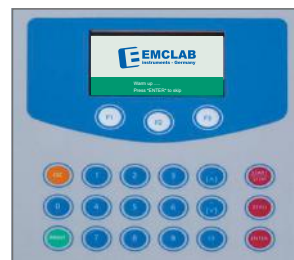
- Standard sample: Measure or enter the absorbance value of a standard sample and enter the corresponding concentration value to define a standard curve.
- Equation coefficients: A standard curve is defined by entering the coefficients K and B of the standard curve equation $C = K \cdot A + B$.



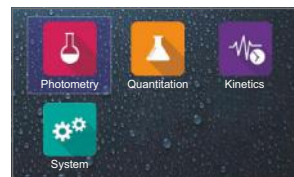
Kinetics Measure the photometric value change with time of the sample.



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



Display



Main menu

EMC-61PC-UV / EMC-61PCS-UV

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

Multi Wavelength: Measure multiple samples with up to 10 wavelengths.

Spectrum 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.

Quantitative Measurement: Define a standard curve using up to 10 standards and choose from 4 curve fitting methods:

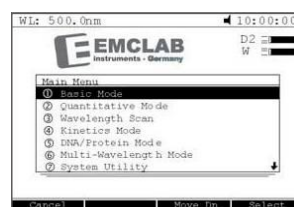
- Linear function
- Linear function through zero
- Square function
- Cubic function

Kinetic Measurement: 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).

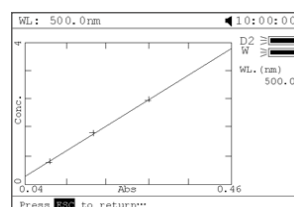
Post processing options include rescaling of axes, curve tracking and determining the part of the curve required for the rate calculation. The reaction rate is calculated with a linear regression algorithm.

DNA/RNA Measurement: Determine DNA/protein concentration at 260 nm/280 nm or 260 nm/230 nm with optional subtracted absorbance at 320 nm.

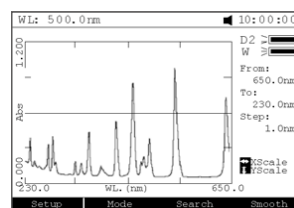
Optionally other wavelengths and factors may be entered.



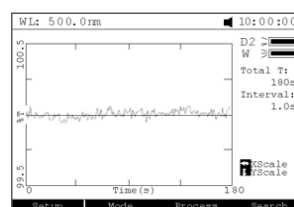
Main menu



Quantitative Measurement



Wavelength scan



Kinetics

No.	Items	Result	Unit
1	Al	0.251	Abs
	A2	0.243	Abs
	Aref	0.095	Abs
	c-DNA	4.524	ug/ul
	c-Pro	110.8	ug/ul
	Ratio	1.059	

DNA/Protein

PC-Software EMC-λ Lambda for the series EMC-11, EMC-11S, EMC-18S and EMC-4Flash²

The PC Software EMC-λ Lambda is based on Microsoft Windows. It is able to navigate our spectrophotometers via the built-in USB-port. It advances the features of the devices and simplifies the operation by converting your application into easy to set up tasks. The tasks you can choose from include the following:

- **Wavelength Measurement**

With this method it is possible to measure the absorption or transmission of a sample with multiple wavelengths. You may select up to 20 wavelengths and multiple samples per task.

- **Spectrum Scan**

This scan enables you to measure the absorption or transmission of a sample in a specific wavelength range. In accordance with your instrument's specifications, you can choose wavelength range, wavelength intervals, and scan speed.

- **Quantitative Measurement**

This method defines the concentration of a solution in a specific substance. Generate your standard curves by entering parameters or measuring standard samples. To measure your samples, choose any of the saved standard curves from the storage or establish a new one.

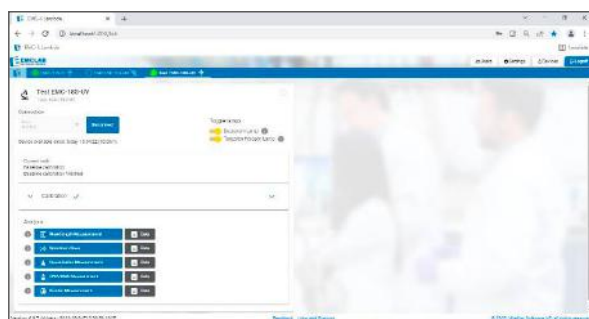
- **DNA/RNA Measurement**

With this measurement the concentration for DNA/RNA samples can be measured. You may use common methods or enter parameters to set up a personalized method.

- **Kinetic Measurement**

This method allows you to measure the absorption of a sample at a wavelength over a certain period of time. The results can be used to identify the kinetics of chemical reactions.

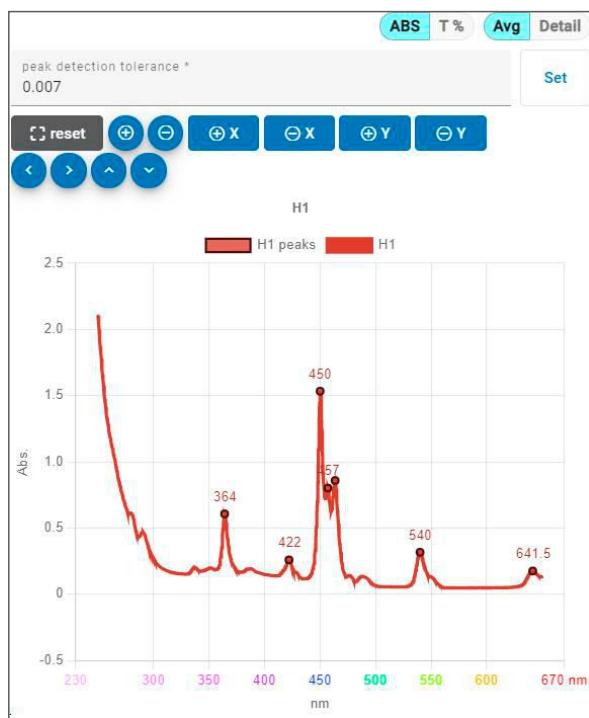
Audit Trail PC-Software according to FDA 21 CFR Part 11 optionally available.



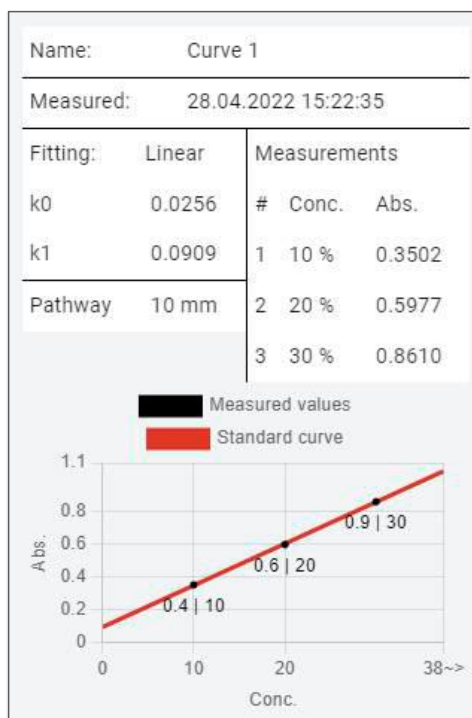
Main Menu

Data			
#	wavelength in nm	F2 Abs. @	F3 Abs. @
1	440	0.2639	0.5365
2	465	0.2383	0.4877
3	546	0.2489	0.5000
4	590	0.2868	0.5476
5	635	0.2898	0.5348

Multi Wavelength Scan: Data



Spectrum Scan: Chart



Standard curve

PC software ANALYST for EMC-61PC-UV / EMC-61PCS-UV

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

Wavelength Measurement: Up to 20 different wavelengths can be entered to measure a variety of samples.

Spectrum 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.

Quantitative Measurement: 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:

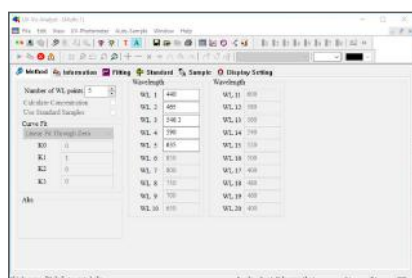
1. Linear function
2. Linear function through zero
3. Square function
4. Cubic function

Kinetic Measurement: 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).

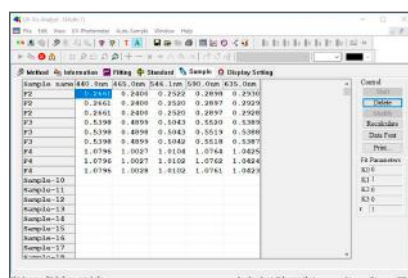
Post processing options include rescaling of axes, curve tracking and determining the part of the curve required for the rate calculation. The reaction rate is calculated with a linear regression algorithm.

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

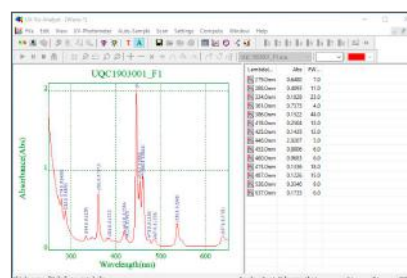
Audit Trail PC software compliant with FDA 21 CFR Part 11 optionally available (next page).



Configuration



Results



Spectrum Scan

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

Article No. EMC-00122 for EMC- 6 series

EMC-00213 for EMC-11, EMC-11S, EMC-18S, EMC-4Flash²



AUDIT TRAIL

EMCLAB instruments Germany - AUDIT TRAIL

- ✖ Data
 - ✖ Gerät1
 - ✖ Gerät2
 - ✖ Neuer Ordner
 - ✖ EMC-61PCS-UV
 - ✖ Neuer Ordner
 - 2018
 - 2017
 - ✖ EMC-NANO-UV
 - ✖ EMC-BR-12

Setup Refresh

file ▲

time logged	time created	time last write	length	deleted	comment
file: UQC1707001_UV60_UV600_1.QUA					
07.06.2018 22:45:17	07.06.2018 22:42:23	05.06.2018 15:03:04	1116	☐	
file: UQC1707001_F1_Holmiumoxide_1.sca					
07.06.2018 22:49:29	07.06.2018 22:42:23	07.06.2018 22:49:24	84224	☒	
07.06.2018 22:45:17	07.06.2018 22:42:23	05.06.2018 15:01:24	84223	☐	
file: UQC1707001_F1-F4.QUA					
07.06.2018 22:50:38	07.06.2018 22:42:23	07.06.2018 22:50:38	1137	☐	Außentemperatur
07.06.2018 22:49:53	07.06.2018 22:42:23	07.06.2018 22:49:53	1137	☐	Zusatz A
07.06.2018 22:45:17	07.06.2018 22:42:23	05.06.2018 15:01:35	1126	☐	Ursprung

Comment: Außentemperatur

K4=0.000000

r=1.000000

[Wavelength]

Num=5

WL1=445.000000

WL2=465.000000

WL3=546.099976

WL4=590.000000

WL5=635.000000

WL6=850.000000

WL7=800.000000

WL8=750.000000

WL9=700.000000

WL10=650.000000

WL11=600.000000

WL12=580.000000

WL13=560.000000

WL14=540.000000

WL15=520.000000

WL16=500.000000

WL17=400.000000

WL18=480.000000

WL19=460.000000

AUDIT TRAIL

Disclaimer

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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