

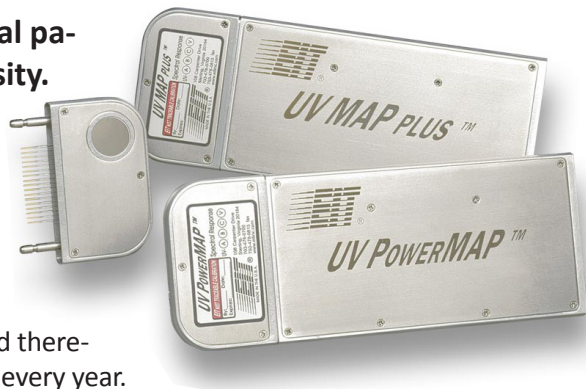
# EIT RADIOMETERS

UV Radiometers - the essential tool for UV process control

**EIT radiometers facilitate the measurement of three critical parameters in UV processes; The irradiance and Energy Density. EIT radiometers operate in defined wavelength bands.**

### Why use a UV Radiometer?

In order to maintain a specific level of UV in the system, it is important to measure the emitted UV regularly. UV lamps deteriorate and reflectors get dirty. This affects the efficiency of the system. The measured values will however, over time deviate from the initial values, and therefore we recommend that any EIT instrument is calibrated at least once every year. This will ensure that the measured values are as exact as possible.

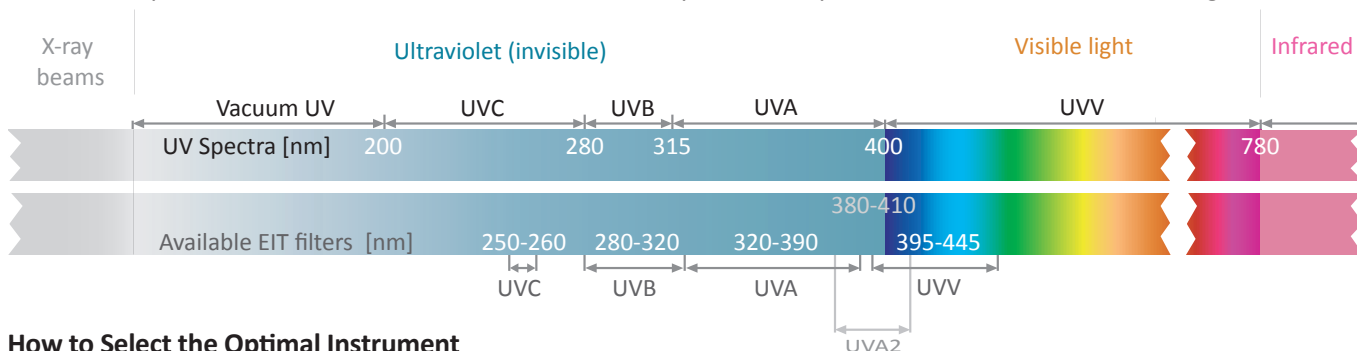


UV PowerMAP & UV MAP Plus

EIT UV radiometers are robust and user-friendly. They are widely used in production and in laboratory for process control, definition of process parameters, process optimization and cost reduction. Using UV radiometers helps simplify the communication between different stakeholders involved in the UV process.

### Irradiance and Energy Density

The instrument's main functions are to measure irradiance and calculate energy density. Peak irradiance is the maximum power per unit area ( $mW/cm^2$ ) received by the sensor. The energy density ( $mJ/cm^2$ ) is the total integrated power pr. unit area over time, received by the sensor. This allows you to ensure that your system is always living up to your standards. Some instruments also have a thermocouple attached for measuring temperature. The radiometers have an internal temperature alarm which is activated at a set temperature to protect the radiometer from being overheated.



### How to Select the Optimal Instrument

It is important to consider the configuration of your UV lamp system before selecting a radiometer. The size, accessibility and number of UV lamps as well as the spectral output of your lamps and the power range. These factors among others will determine which instrument is most suitable for your application.

### Wavelength

The UV spectrum ranges from 100 nm to 450 nm. The UV source needs to match the chemistry and sometimes also the substrate in your application. EIT offers UV-filters for 5 sub spectra – UVA(320-390nm), UVA2(380-410nm), UVB(280-320nm), UVC(250-260nm) and UVV(395-445nm). It is important to consider which band(s) is necessary before choosing the right radiometer for your process.

When we assist customers choosing the right instrument, we look at the individual system and your specific needs before we recommend an instrument.

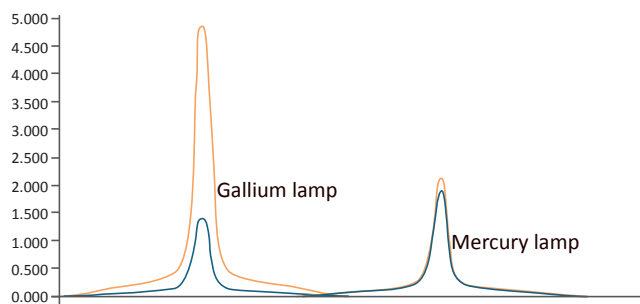


**One or Four Bands**

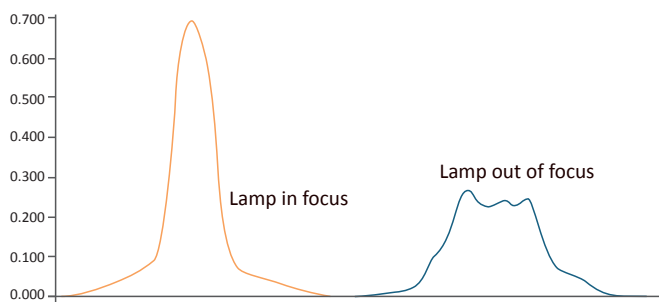
EIT multiple band radiometers measure four UV spectra UVV, UVA, UVB and UVC at the same time, whereas single band radiometers measure one band which must be specified upon order. EIT also offers a filter for the fifth sub spectra (UVA2) well suited for applications using LED light.

**Size of the System**

Some systems have limited space which makes it difficult or impossible for a normal sized radiometer to pass. Some productions are in need of an instrument able to measure at more than one point simultaneously. EIT delivers radiometers that can accommodate many different needs regardless of the type of system you may have.



Illustrations from PowerView software showing two different lamps.



Illustrations from PowerView software showing two different lamp positions, one in focus and one out of focus.

INSTRUMENT CHARACTERISTICS	UV PowerMAP	UV MAP Plus	Power Puck II	UviCure Plus II	MicroCure	Spot Cure	3D Cure	PALM Probe
Energy Density Reading	•	•	•	•	•	•	•	•
Peak Irradiance Reading	•	•	•	•	•	•	•	•
Relative Intensity Reading								
High Intensity Applications	•	•	•	•	•	•	•	•
Low Intensity Applications	•	•	•	•		•	•	
Download to PC	•	•	•	•			•	
Single Band		•	•	•	•	•	•	•
Multiple Band (4)	•		•				•	

**MARKET SEGMENT**

Exposure/Plate Making	• (LP)	• (LP)						
Spot-curing Applications					•			
Small Batch Curing		•	•	•		•		
Web Press Application							•	
Small Container Curing				•		•	•	
Dimensional Objects (3D)					•		•	
Inkjet	•	•	•	•	•		•	
LED	•	•	•	•				

(LP) indicates that the instrument is a Low Power version.

**PC Compatibility**

The data captured with the PowerMap/UV Map Plus II are downloaded via EIT's software PowerView to PC. In PowerView it is possible to view the data in different modes e.g. graph view. The different views allow you to store, compare and analyze data. Other instruments also have compatibility with PC (See charts left).

**Choose the Right EIT Instrument for your application**

The upper left chart shows various characteristics for the available EIT instruments. The lower left chart shows which instrument is best suited for the various market segments.



**Further information**

We have wide experience of measuring UV and the practical aspects of the use of EIT's instruments in different applications.

For more detailed information regarding price, delivery time and further specifications, please contact us.

**Send to Efsen for calibration**

Efsen Engineering is the European center for calibration of EIT instruments, and is certified to calibrate according to EIT standards.

More information is available at [www.efsen.dk](http://www.efsen.dk).