

# UV RADIOMETER UM-10

**An easy-to-use instrument for measuring ultraviolet radiation. Choose from three different high-sensitivity receptor heads according to your application.**



## MAIN FEATURES

**Easy operation**

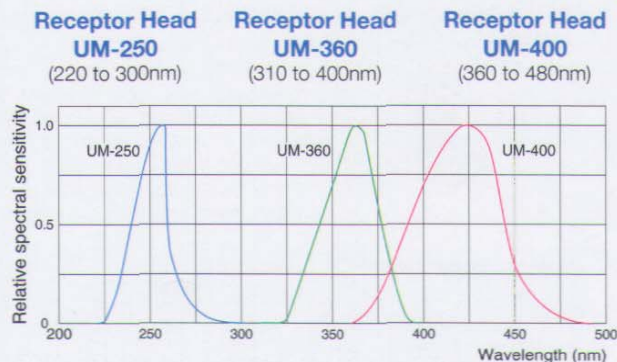
**Wide total measuring range  
(0.1 to 199,900  $\mu\text{W}/\text{cm}^2$ ) with automatic  
range selection**

**Choice of three different receptor heads to  
match specific applications**

**Compact, handheld design**

**Digital (RS-232C) and analog output  
terminals**

## THREE DIFFERENT RECEPTOR HEADS



## MAIN APPLICATIONS

### Fields Utilizing Photochemical Reactions

- Checking exposure of photoresists in semiconductor manufacturing
- Checking exposure of emulsions for printing or platemaking
- Testing fading due to UV exposure
- Evaluating characteristics of solar cells
- Testing deterioration of products due to UV exposure

### Fields Utilizing Biological Applications of UV Exposure

- Diagnosis of erythema and other skin pigmentation problems
- Treatment of white skin spots or oversensitivity to light
- Optimization and control of breeding conditions for fish and domestic animals
- Suppressing growth of useless shoots on plants
- Monitoring conditions for photosynthesis

### Fields Utilizing the Photoelectric Effect

- Electrophotography
- Electrographic etching

### Fields Requiring Use of Sterilization Lamps

- Food processing
- Beauty treatment
- Scientific research

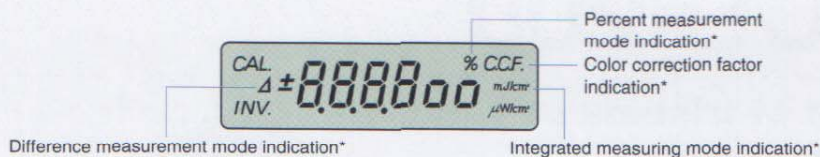
**Other fields which require adjustment, monitoring, or research of ultraviolet light and light sources**

## EXAMPLES OF SUBJECT LIGHT SOURCES

- Fluorescent health lamps
- High-pressure mercury lamps
- Ultra-high-pressure mercury lamps
- Photopolymerization lamps
- Blacklight lamps
- Copier lamps
- Xenon lamps
- Fluorescent lamps
- Sterilization lamps



## EXAMPLES OF SUBJECT LIGHT SOURCES



\* Available only when optional Expansion Keyboard **UM-A25** is attached.

## OPTIONAL ACCESSORIES



### Expansion Keyboard UM-A25

With Expansion Keyboard **UM-A25** attached, the following functions are added.

#### Integrated irradiance

The total irradiance received over a period of time can be measured.

Maximum integrated irradiance

Approx. 1,000,000,000 mJ/cm²

Maximum integration time: 999.900sec

#### Color correction factor

By setting the appropriate color correction factor, the **UM-10** can be adjusted to more accurately measure the irradiance of different lamp types.

#### Irradiance difference

The difference between a measured irradiance and a target irradiance\* stored in memory can be determined.

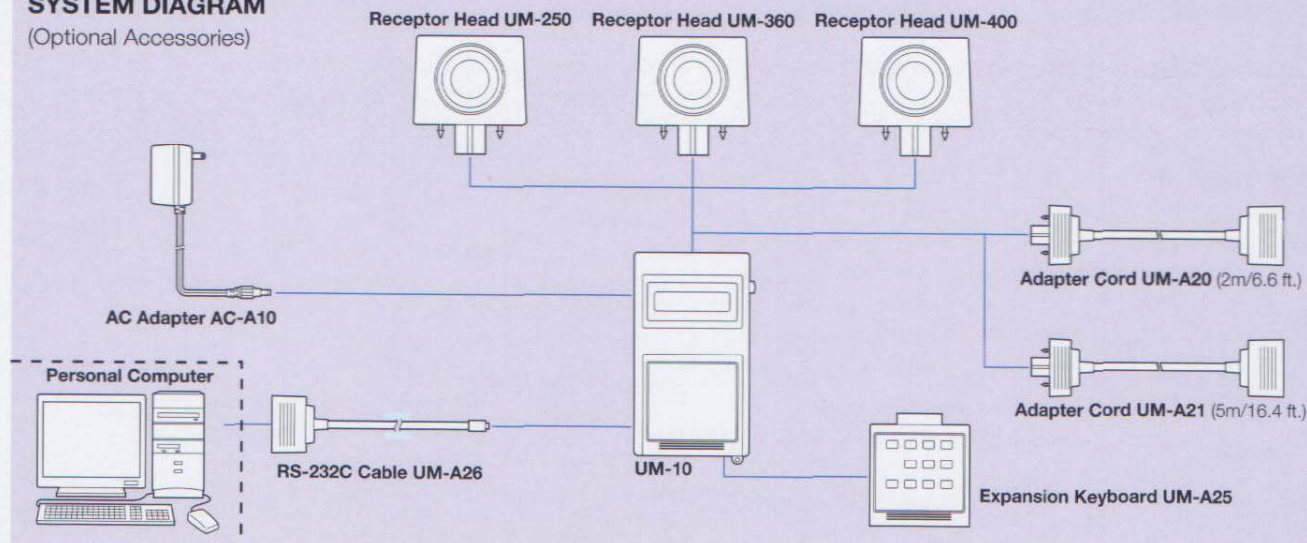
#### Percent irradiance

The measured irradiance as a percentage of a target irradiance\* stored in memory can be determined.

\*The target irradiance can be measured or input as numerical values.

## SYSTEM DIAGRAM

(Optional Accessories)



## SPECIFICATIONS

Type		Irradiance meter with interchangeable receptor heads for measuring UV radiation			
Receptor heads	Receptor		Silicon photodiode		
	Model		UM-250	UM-360	UM-400
	Spectral response		220 to 300nm	310 to 400nm	360 to 480nm
	Peak wavelength		250±10nm	365±5nm	415±5nm
	Cosine error	30°	Within ±3%	Within ±3%	Within ±3%
60°		Within ±15%	Within ±10%	Within ±10%	
Measurement modes		Irradiance ;integrated irradiance*and integration time*;irradiance difference*;percent irradiance*			
Irradiance measuring range		0.1 to 199,900μW/cm² in four automatically selected ranges			
Integrated irradiance range*		Muximum approx.100000mJ/cm² measurable (in 9999 display cycles)			
Integration time*		999,900sec.(288h)			
Linearity		Within ±5% of reading = 1 digit			
Temperature/humidity drift		Within ±3% ±1 digit (of value displayed at 23°C/73.4°F) within operating temperature/humidity range			
Analog output		0 to 3V;1mV/digit			
Digital output		RS-232C 2400BPS			
Display		4-digit LCD			
Operating environment conditions		Temperature: 0 to 40°C (32 to 104°F); relative humidity 85% or less (at 35°C/95°F) with no condensation, Maximum altitude: 2000m, Installation category: II, Pollution degree: 2			
Storage temperature range		—20 to 55°C (-4 to 131°F); relative humidity 85% or less (at 35°C/95°F) with no condensation			
Power source		One 9V battrry or optional AC adapter			
Dimensions		73.5X186X33mm(2-7.8X7-5/16X1-5/16 in)			
Weight		270g(9.5 oz.) including battery			
Standard accessories		Case;Cap;Strap;Analog output plug			

\*Available only with optional Expansion Keyboard **UM-A25** attached.

Specifications are subject to change without notice.