

IL1400 Radiometer & Probes

Hand-held, micro-processor radiometer accepts the widest variety of sensors and probes for measuring specific UV wavelengths and spectrums



The **IL1400 Radiometer** is a significant improvement in hand-held radiometers. Using state-of-the-art microprocessing to reduce the confusion of light measurement, the IL1400 integrates the detector to accurately identify the proper measurement. Correct readout of optical units of measurement is provided with a touch of a button in joules per square centimeter, foot-candle, fL, Lux, ft-cd, uW/cm², or mW/cm².

Easy to read alpha-numeric measurements are displayed in SI units, rather than scientific notation, which makes it easier to operate by personnel unfamiliar with exponential notation. The IL1400 also offers automatic ranging over seven decades and automatic zeroing. Light integration of up to 24 hours is offered and is especially useful for UV curing, industrial photoresist and controlling other light sensitive exposure processes. This battery-powered unit has an automatic shutoff to extend cell life.

With the data recorder provided for output, the operator can develop time variation studies or optical profiling. This same output can be used as an input to a data logger or computer analog interface. For those who require additional data processing capabilities, the IL1400 may be supplied with a TTL serial port for direct computer connection, a low cost solution to remote unattended data collection with excellent data transfer accuracy.

Low profile probes for photoresist, UV curing and other exposure applications are available in different styles (each sold separately). To reduce cost, the detectors may be plugged directly onto the instrument in either the up or down (forward or back) configuration. This allows view of the display while the detector maintains proper operating position. An extension cable and fiber bundles are also available (sold separately) for applications where the probe must go to the light source.

Interchange probes by connecting the desired sensor to top of unit.



Probes are available in various shapes and sizes depending on application



Besides uses in industrial and R&D applications, the "Smart" IL1400 Radiometer also is useful in health hazard, environmental and phototherapy fields.

Item No.	Description
M007-017	IL1400 RADIOMETER

24-HOUR PRODUCT SERVICES

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UV PROCESS SUPPLY, INC.

IL1400 Radiometer & Probes

Hand-held, micro-processor radiometer offers variable output measurements and multiple probe characteristics to meet production needs



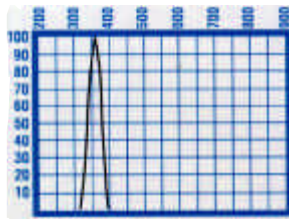
Features:

- Simple operating buttons
- Direct reading in optical units of measurement: joules per square centimeter; foot candle; Lux; fL; ft-cd; uW/cm2
- Directly coupled or detachable detector with cable
- Analog output (0-1 volt)
- 7 decade dynamic ranging
- Auto-ranging
- Automatic zeroing
- Battery operated with auto-shutoff
- Lightweight, hand-held
- Easily readable alpha numeric display
- Light integration up to 24 hours
- Detector determined processing
- Carrying case for handy use

SELECTION OF PROBES FOR IL1400 RADIOMETER



Spatial Response



Spectral Response

UVA Detector Probe

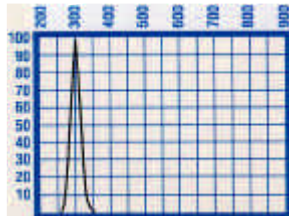
Suitable for visible and near-IR detection only. Not appropriate for UV applications. Range: 500 microwatts/cm² to 200 milliwatts/cm².

Item No.
M007-021

Description
UVA DETECTOR PROBE



Spatial Response



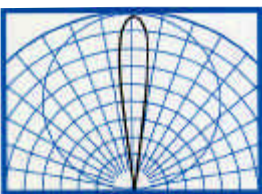
Spectral Response

UVB Detector Probe

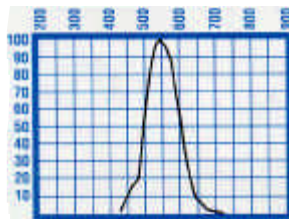
With a spectral range of 265 to 334 nanometers, it provides instantaneous UVB irradiance (milliwatts/cm²) and accumulated dose (millijoules/cm²) measurements for phototherapy, tanning salons and environmental research applications. Measurement range: 10 nanowatts/cm² to 1.999 miliwatts/cm².

Item No.
M007-022B

Description
UVB DETECTOR



Spatial Response



Spectral Response

Extra Sensitive Photometer Detector

Spectral range of 400 to 700nm. Increases sensitivity over two decades for very low light levels. The narrow acceptance angle excludes stray light beyond +/- 10°. Range: 500 millifoot-candles to 150 foot-candles.

Item No.
M007-026B

Description
EXTRA SENSITIVE PHOTOMETER DETECTOR

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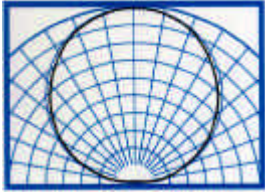
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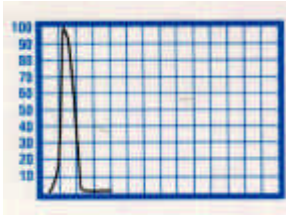
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Spatial Response



Spectral Response

Actinic Hazard Detector

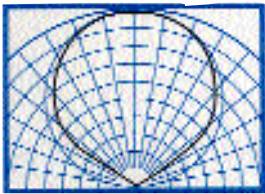
This detector has been updated to spectrally match the extended UV Hazard band, established by ACGIH and recommended by NIOSH, specified as 200 to 400 nanometers. Useful for Threshold Limit Value UV Hazard exposure as well as atmospheric ozone depletion measurements. Measurement range: 10 nanowatts/cm² to 5.0 milliwatts/cm².

Item No.

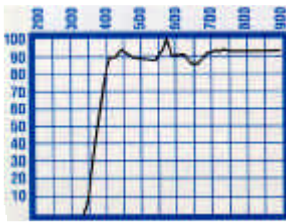
M007-023B

Description

ACTINIC HAZARD DETECTOR



Spatial Response



Spectral Response

Flat Response Detectors

For irradiance measurement of a wide variety of light sources in the visible and near IR, these low profile general purpose probes have flat spectral responses, from 400 to 1000 nanometers, and near Cosine spatial responses. Irradiance: 1.0 nW/cm² to 6.9 mW/cm²; High Level: 100 nW/cm² to 690 mW/cm².

Item No.

M007-024

M007-025

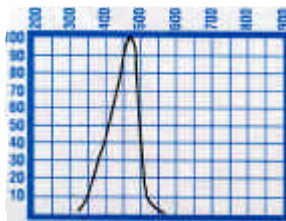
Description

FLAT RESPONSE DETECTORS; Irradiance

FLAT RESPONSE DETECTORS; High Level



Spatial Response



Spectral Response

Blue Hazard Detector

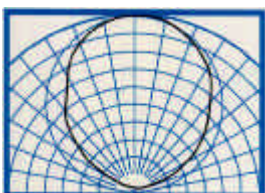
Spectral range of 410-510 nm as defined by ACGIH. Accurately measures Blue Light Hazards. Range: 33 nanowatts/cm² to 100 milliwatts/cm². 0.33 cm² silicon detector, TBLU filter, R Barrel and PRR(IPRR) calibration.

Item No.

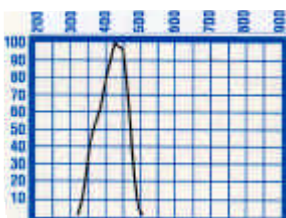
M007-027B

Description

BLUE HAZARD DETECTOR



Spatial Response



Spectral Response

Photoresist Detector

With a spectral response from 320 to 475 nanometers (400 nm peak), the low profile (12 mm) remote probe (7 feet) provides general purpose UV irradiance measurements in the near and middle end of the UV spectrum for photoresist exposure production environments. Measurement range: 50 nanowatts/cm² to 199.9 milliwatts/cm².

Item No.

M007-028

Description

PHOTORESIST DETECTOR

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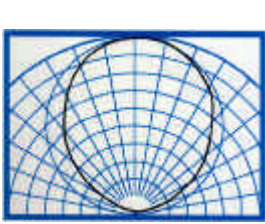

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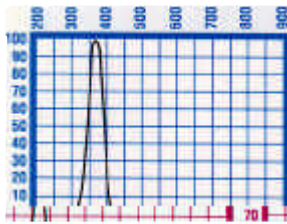
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Spatial Response



Spectral Response

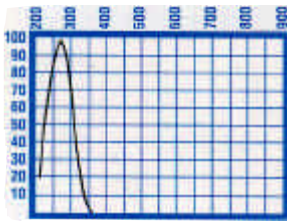
Mid-UV Photoresist Detector

With a spectral response from 326 to 401 nanometers (365 nm peak), this low profile (12.5 mm) probe with standard remote cable (7 feet) provides direct measurement of exposure level irradiance in the middle of the UV spectrum for test and production applications. Measurement range: 100 nanowatts/cm² to 199.9 milliwatts/cm².

Item No. M007-029B
Description MID-UV PHOTORESIST DETECTOR



Spatial Response



Spectral Response

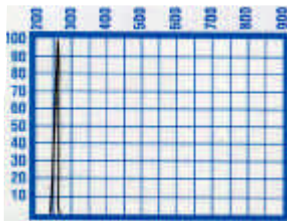
Deep-UV Photoresist Detector

With a spectral response from 200 to 320 nanometers (270 nm peak), this solar blind vacuum photodiode detector with standard remote extension cable (7 feet) provides direct measurement of high intensity exposure light in the deep UV region. Measurement range: 1.0 microwatt/cm² to 199.9 milliwatts/cm².

Item No. M007-030B
Description DEEP-UV PHOTORESIST DETECTOR



Spatial Response



Spectral Response

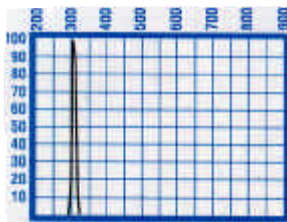
Narrow Band Deep-UV Germicidal Line/UVC Detector

With a narrow spectral response from 249 to 259 nanometer (254 nm peak), this remote (7 feet) detector precisely monitors the germicidal line (at 253.7 nanometers) in the deep UV while rejecting long wavelength UV and visible light. Range: 100 picowatts/cm² to 20 milliwatts/cm².

Item No. M007-031B
Description NARROW BAND DEEP-UV GERMICIDAL LINE/ UVC DETECTOR



Spatial Response



Spectral Response

Narrow Band Deep-UV Erythematous Line Detector

With an extremely narrow spectral response from 296 to 302 nanometers (297 nm peak), this remote (7 feet) detector precisely monitors the erythematous line (at 296.7 nanometers) for sunburn and ozone depletion. Measurement range: 100 picowatts/cm² to 20 milliwatts/cm².

Item No. M007-032B
Description NARROW BAND DEEP-UV ERYTHEMAL LINE DETECTOR

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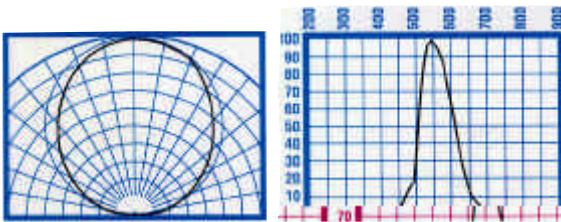
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Spatial Response

Spectral Response

Photometer Detector

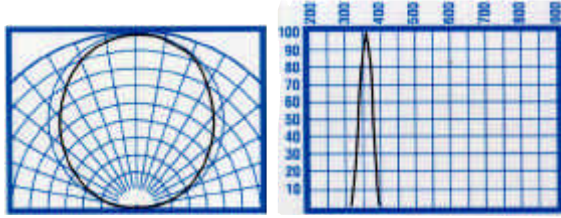
This low cost, photo-optically corrected detector is useful for human visibility applications. Probes for luminance and higher output sources, such as sunlight, are available. Range: 1.0 mFt-CndI (10 mlux)-28 Kft-CndI (300 Klux). Ciephotopic 400 - 700 nanometers.

Item No.

M007-033B

Description

PHOTOMETER DETECTOR



Spatial Response

Spectral Response

UVA Detector 1400 UV

With a spectral range of 325 to 388 nanometers, it provides instantaneous UV irradiance (milliwatts/cm²) and accumulated dose (millijoules/cm²) measurement for phototherapy, tanning salons and environmental research applications. 7-ft. cable included.

Item No.

M007-038B

Description

UVA DETECTOR 1400 UV



Right Angle Probe

Right Angle Micro Probe & Right Angle Probe Adapter

For use with IL1400 and IL1700 Radiometers, the Right Angle Micro Probe makes short wave visible and infrared measurements in hostile (high temperature) environments. It features a 90° viewing angle and a virtual sensing zone to quantize within the actual radiation application plane. This low profile probe fits into a 4 mm opening.

The Right Angle Micro Probe is designed to perform measurements from 200 nm to 2,000 nm in 350°F temperatures. A machined quartz head incorporated in a pure fused silica fiber within a stainless steel sheath measures 4 mm x 4 mm x 12.7 mm. Available in standard 1, 2, and 3 ft lengths, the Right Angle Probe can be installed into equipment permanently and is available for purchase separately.

Item No.

M007-052

Description

RIGHT ANGLE MICRO PROBE

M007-053

RIGHT ANGLE PROBE ADAPTOR

NOTE: The Right Angle Probe can be used separately or in conjunction to another probe via the Right Angle Adaptor. The Right Angle Micro Probe Attachment and Probe Adapter are accessories to the IL1400 (M007-017) and the IL1700 (M007-020) Radiometers. **NOTE:** The Right Angle Micro Probe Attachment and Probe Adapter work only with the following probes:

- M007-020 1700 Probe: UV Visible Vacuum Photodiode
- M007-022 UVB Detector Probe
- M007-023 Actinic Hazard Detector Probe
- M007-026 Extra Sensitive Photometer Detector Probe
- M007-027 Blue Hazard Detector Probe
- M007-030 Deep-UV Photoresist Detector Probe
- M007-031 Narrow Band Deep-UV Germicidal Line/UVC Detector Probe
- M007-032 Narrow Band Deep-UV Erythema Line Detector Probe

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