

# ACCU-CAL™ 50

UV Radiometer



ACCU-CAL™ 50 for Flood Lamps (PN 39561)

ACCU-CAL™ 50 for Spot Lamps (PN 39560)

## Operation Manual

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## INTRODUCTION

The enclosed ACCU-CAL™ 50 UV Radiometer was developed and manufactured by the DYMAX team, driven by a desire to best serve your needs. Before shipping, your ACCU-CAL™ 50 Radiometer was calibrated and tested against standard UV light sources to ensure accurate performance.

The operation of this radiometer in conjunction with a UV light-curing system will maximize safety and user-friendly performance and provide optimum yield of your technological process.

**THEREFORE, WE ENCOURAGE YOU TO READ, UNDERSTAND, AND FOLLOW ALL SAFETY AND OPERATING INSTRUCTIONS AND RECOMMENDATIONS COMPILED IN THIS AND OTHER RELATED MANUALS** prior to setting up and operating this instrument and any associated UV light-curing systems.

If you encounter a problem, have any questions, or would like to help us with your suggestions or recommendations, please contact our Technical or Customer Support Departments at 860-482-1010. Trained DYMAX professionals are standing by to serve you.

**Par conséquent, nous vous encouragez à lire, comprendre, et suivre toute sécurité et instructions d'opération et conseils rédigés dans cette et autres manuels établis** un lien avant de mettre en place et de faire marcher ce nouveau système de lampe de tâche ou ces composants individuels.

Si vous rencontrez un problème, avez n'importe de questions, ou si vous voudrez de nous aider avec vos suggestions ou conseils, s'il vous plaît contactez notre département technique ou service client à 860-482-1010. DYMAX formé professionnels attendent à vous servir.

## UNPACKING AND INSPECTION

Upon receipt of the unit, carefully remove the contents from the boxes and check for damage. **DYMAX is not responsible for damage from shipping – all claims for shipping damage should be made with the carrier.**

Check all boxes for contents and write down any serial numbers for further reference. You may wish to retain original shipping cartons in case you need to repackage any item for return.

If you observe or experience any problem with your equipment, notify DYMAX Customer Service, your authorized DYMAX distributor, or your DYMAX representative immediately.



Figure 1. Spot Radiometer (PN39560)



Figure 2. Flood Radiometer (PN39561)

**NOTE:** Report any shortage to DYMAX Corporation Customer Support: Phone: 860-482-1010, Fax: 860-626-7681

Before continuing with unpacking and installation, please read the following chapters of this manual for safety recommendations and installation, operation, and troubleshooting instructions.



**CAUTION!** Always wear protective goggles or face shield when working near the front of any unit which emits UV light! The rear of some units also emit stray UV light.



**WARNING!** Always observe safety requirements!



**PRÉ-CAUTION!** Toujours faire de l'usage des lunettes de protection ou protéger de visage marche près du devant d'élément!



**PRÉ-CAUTION!** Risque de décharge électrique quand le couvert est enlever!



**ACHTUNG!** Tragen Sie immer eine Sicherheitsbrille oder einen Gesichtsschutz, wenn Sie nahe an der UV Lichtquelle arbeiten. Die Rückseite des Gerätes emittiert gestreutes UV Licht!



**WARNHINWEIS!** Bitte beachten Sie immer die Sicherheitshinweise!

## SAFETY

The ACCU-CAL™ 50 Radiometer is designed to be use in conjunction with DYMAX UV light-curing equipment that is properly set up, with components correctly connected, and operated in accordance with relevant instructions.

### SAFETY RECOMMENDATIONS:

- When working with UV light sources, use goggles, provided, or a face shield approved for UV protection to protect your eyes.
- Long-sleeved shirts, or a lab coat, are recommended to protect the arms, and use of UV opaque gloves will protect the hands.

### Sécurité

L'équipement être conçu pour être utilisé correctement constituer, avec composants brancher correctement, et marché en conformément avec instructions important. Le plan états développer pour rendre au maxime opérateur sécurité et minimiser exposition à ultraviolette.

### Recommander de sécurité:

- Emploi lunettes, ou un protéger de visage pour protection de ultraviolet pour protéger vous yeux.
- Chemises à manche long, ou manteau de labo, sont recommander pour protéger les bras, et utilisation de ultraviolette gants opaque vais protéger les mains.

### SICHERHEITSHINWEISE

Dieses Gerät wurde so entwickelt, dass es nur vollständig, alle Komponenten korrekt miteinander verbunden, in Übereinstimmung mit relevanten Instruktionen betrieben wird. Bei der Entwicklung wurde weiterhin großen Wert auf die Benutzersicherheit und minimale UV Belastung gelegt.

### SICHERHEITSHINWEISE:

- Tragen Sie immer die mitgelieferten Sicherheitsbrille oder speziellen Gesichtsschutz, der Ihre Augen vor UV Licht schützt.
- Wir empfehlen Langarm - Hemden oder einen Laborkittel zu tragen, um die Arme zu schützen. Für die Hände empfehlen wir UV- geblockte Handschuhe.

**BITTE BEACHTEN SIE:** Durch den installierten inneren Filter strahlt die BlueWave™ 200 UVA und sichtbares Licht aus. Schauen Sie deshalb niemals direkt in die Lichtquelle, wenn das Gerät angeschaltet ist.

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## GENERAL

The ACCU-CAL™ 50 Radiometer is a microprocessor-based measurement instrument designed to measure UVA radiation in the range of 320-390 nm.

The ACCU-CAL™ 50 uses two AA batteries.

### ENVIRONMENTAL CONSIDERATIONS

- Optical measurement instruments are sensitive to extremes in environmental conditions like high temperature, humidity, and contamination. Protect the device and its detector(s) from high humidity, high temperature, direct sunlight, and contamination.
- Do not use the ACCU-CAL™ 50 immediately after having taken it from a cold into a warm environment. Under certain circumstances, condensation could develop and may cause inaccurate measurement results. Allow the device to adjust to room temperature before use.
- Do not use the ACCU-CAL™ 50 in powerful magnetic, electromagnetic, and electrostatic fields. These disturbances may influence measurement results.

## SPECIFICATIONS

<b>Power</b>	Two AA size batteries
<b>Display</b>	LCD Graphic Display 97x 32 Pixel Display area: 0.56 in x 1.41 in (14.3 mm x 35.8 mm)
<b>Detector Interface</b>	9-Pin MDSM9 socket, 4 inputs
<b>Measurement Ranges</b>	Four modes of operation Auto range within each operating mode
<b>Front Panel Control</b>	3 buttons
<b>Temperature</b>	Operating: 5 to 40°C Storage: -10 to 50° C
<b>Size</b>	5.71 in x 2.48 in x 1.18 in (145 mm x 63 mm x 30 mm)
<b>Weight</b>	0.33 lbs (150 g)

## OPERATION

1. The ACCU-CAL™ 50 Radiometer may be used to measure UV intensity from Flood Lamps or UV intensity from the end of a 3-mm, 5-mm , or 8-mm lightguide used with a Spot Lamp. For Flood Lamp use, attach the Detector to the Radiometer as shown in Figure 3.
2. For Spot Lamp use, select an Adapter that matches the size of the Lightguide that is installed on the Spot Lamp. 3-mm, 5-mm, and 8-mm Adapters are available.

**NOTE:** Lightguide Adapters are included in the spot version (PN 39560) of the ACCU-CAL™ 50 or available separately.

3. Install the Lightguide Adapter on the end of the Detector using the two, 2 mm screws provided.



Figure 3. Radiometer with Detector



Figure 4. Lightguide Adapters

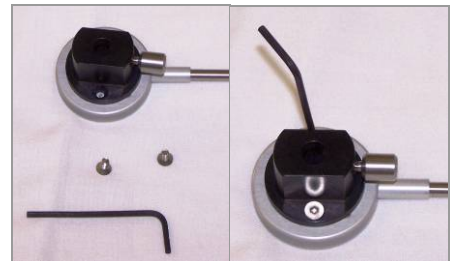


Figure 5-6. Adapter Installation (Step 3)

4. Attach the Lightguide Adapter to the Spot Lamp Lightguide by inserting the Lightguide into the Lightguide Adapter until it bottoms out. Tighten the set screw when the Lightguide is installed.



Figure 7-9. Attach Lightguide Adapter to Lightguide (Step 4)



Figure 10. Face Plate

5. Press and release the On/Off Key on the Face Plate to turn the Radiometer on and off.
6. Press and release the Light Source Key to select the light source being measured. The different light source options are:
  - Flood Lamp - For use when measuring UV intensity of a flood-lamp light source.
  - 3-mm Lightguide - For use when measuring UV intensity at the end of a 3-mm lightguide.
  - 5-mm Lightguide - For use when measuring UV intensity at the end of a 5-mm lightguide.
  - 8-mm Lightguide - For use when measuring UV intensity at the end of a 8-mm lightguide.
7. Press and release the Mode Key to select between the meters operating modes. The different operating modes are:
  - Peak Intensity - Shows the highest UV intensity in  $\text{mW}/\text{cm}^2$  seen by the detector during the measurement.
  - Intensity - Shows the UV intensity in  $\text{mW}/\text{cm}^2$  at the detector during the measurement.
  - Dose - Shows the total UV dose in  $\text{mJ}/\text{cm}^2$  at the detector during the measurement.

## MAINTENANCE

The ACCU-CAL™ 50 was designed to operate with minimum maintenance. Follow the schedule below to assure top unit performance.

- Calibrate the instrument at least annually. Calibration service is available through DYMAX Customer Service or DYMAX Product Repair.
- Change the batteries when a low battery warning is received. The ACCU-CAL™ 50 uses two AA-type batteries. The battery compartment is on the back of the instrument.
- Keep the detector head's sensing element clean and free of contaminants. The detector head may be cleaned with a clean tissue wetted with isopropyl alcohol.
- To increase battery life, turn unit power off after use. The unit will not automatically power off.



Figure 11. Battery Compartment (Closed & Open)

## SPARE PARTS/OPTIONS/ACCESSORIES:

ITEM	PART#
Adapter Kit – Flood to Spot Model (includes parts listed below)	39554
Lightguide Simulator	38408
8-mm Lightguide Adapter	39558
5-mm Lightguide Adapter	39557
3-mm Lightguide Adapter	39556

## WARRANTY

### CAUTION!

DYMAX CORPORATION RESERVES THE RIGHT TO INVALIDATE ANY WARRANTIES, EXPRESSED OR IMPLIED, DUE TO ANY REPAIRS PERFORMED OR ATTEMPTED ON DYMAX EQUIPMENT WITHOUT WRITTEN AUTHORIZATION FROM DYMAX. THOSE CORRECTIVE ACTIONS LISTED BELOW ARE LIMITED TO THIS AUTHORIZATION.

DYMAX Corporation offers a one-year warranty against defects in material and workmanship on all system components *with proof of purchase date*. Unauthorized repair, modification, or improper use of equipment may void warranty. The use of aftermarket replacement parts not supplied or approved by DYMAX Corporation, will void any effective warranties and may result in damage to the equipment.

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**Please note that most dispensing and curing system applications are unique.** DYMAX does not warrant the fitness of the product for the intended application. Any warranty applicable to the product, its application and use is strictly limited to that contained in DYMAX's standard Conditions of Sale. DYMAX recommends that any intended application be evaluated and tested by the user to insure that desired performance criteria are satisfied. DYMAX is willing to assist users in their performance testing and evaluation by offering equipment trial rental and leasing programs to assist in such testing and evaluations. Data sheets are available for valve controllers or pressure pots upon request.

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