BioDtex

DETECT THE UNSEEN

Biofilm detection lamp

USER MANUAL

COMPLETE MANUAL FOR GETTING STARTED
WITH BIODTEX

support@biodtex.com

https://biodtex.com

TABLE OF CONTENTS

1.INTRODUCTION

A. About BioDtex

The BioDtex UV lamp detects invisible contaminants, such as Listeria, Salmonella or E. coli, on various surfaces thanks to its UV-A technology. It works alone, or with ATP systems, to further identify the nature of the contaminants. Its use helps in precise and rapid control of cleanliness for safer environments.

B. Areas of application

- Food industry: Ensure better control and cleanliness of production equipment and surfaces in contact with food.
- Environmental: Improved analysis of the impact of biofilms on water treatment systems and in environmental pollution research.
- Pharmaceutical industry: Improved control of the sterility of production environments and critical surfaces.
- Public health: Monitor and prevent microbiological contamination in hospitality, health care and medical facilities.
- Cleaning companies: Ensure thorough cleaning after biofilm detection in various environments.
- Chemical industry: Monitor the effectiveness of cleaning and disinfection solutions used to eliminate biofilms.

C. Disclaimer

By using the BioDtex lamp and following this manual, you agree to the following conditions:

1. Intended Use : The BioDtex lamp is intended for the detection of biofilms. Use it only as instructed in the manual and within the defined usage limits.

2. No Professional Advice: The information provided does not constitute professional advice.

3. No Warranty: No warranty, expressed or implied, is provided. Results may vary depending on conditions of use. Any observation should be confirmed by a swabbing or specific internal procedure.

4. Risks and precautions: The user is responsible for the safe use of the lamp. The manufacturer and distributor decline all responsibility in case of misuse.

5. Updates: BioDtex reserves the right to modify the lamp, or this manual without notice.

D. List of contents

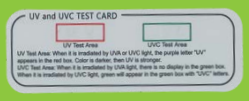
1 x User Manual

1 x BioDtex Unit

1 x USB-C Charger and Cable

1 x Carry case

1 x UV Test Card



2 x Lanyards

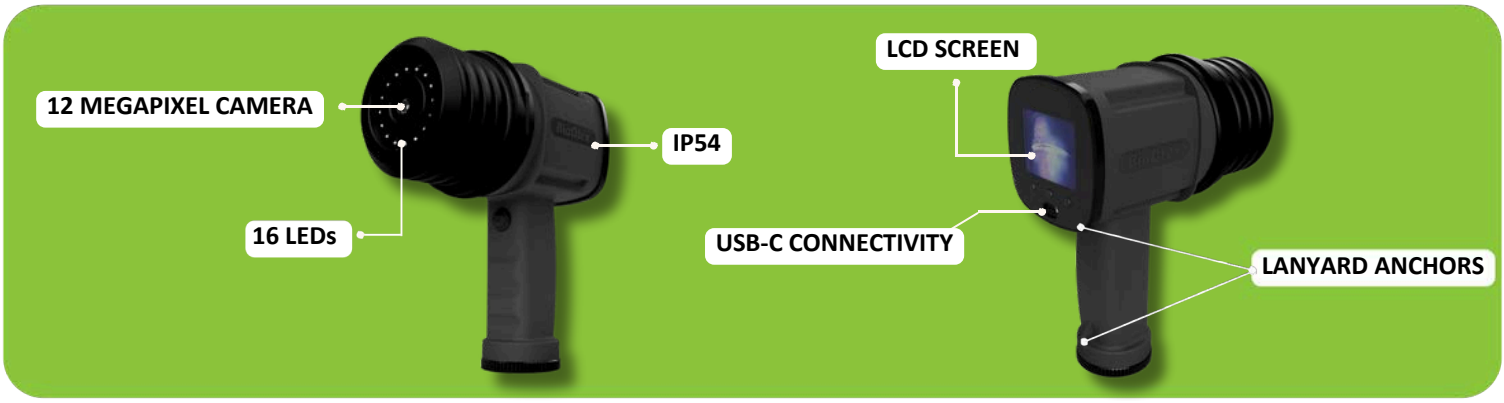
1 x UV safety glasses

2 x Batteries

BioDtex has been independently tested by Campden BRI on a range of bacterial organisms and successfully detected all strains.

2. TECHNICAL SPECIFICATIONS

A. Technical characteristics



Standards
UKCA/CE/FCC

Dimension of Lamp Only
L x 23 cm l x 18 cm
H x 10 cm

Battery Life
Up to 4.5 hours of continuous use

Battery
Battery Li-Ion removable/rechargeable 14.4V 2600mAh 37.44Wh.

Recharge time
<3 Hours

Lamp Weight
(with Battery)
2.6lbs / 1.2kg

Screen
2.8" (7.1 cm) screen

Drop test
1.5 meters

B. Maintenance and cleaning

Safety Precautions	Do not direct UV light towards eyes or skin. Protect your eyes with the provided safety glasses and avoid prolonged exposure to UV rays.
Cleaning	Before using the BioDtex lamp, make sure the lenses are clean for best results. Clean the lamp and lenses with a soft, dry cloth after each use, avoiding abrasive chemicals.
Periodic maintenance	Perform routine maintenance as recommended and inspect cables, connections and components for abnormalities.
Proper storage	Store the lamp in it's carry case when not in use and in a clean, dry place, away from heat sources.
Annual calibration	If you require annual calibration of the BioDtex lamp, contact support@biodtex.co.uk for further information.

3. Installation and configuration

A. Switching On and Off

Insert the battery

1. Unscrew the cover under the lamp to access the battery compartment.

2.Connect the battery connector.

3.Insert the battery into the compartment.

4.Screw the cover back on by hand and close securely.

Turn on the device

1. Press the central On/Off power button.

2. Wait around 10 seconds (do not press the main trigger button during startup).

Shut down the device

1. To turn off the device, press the On/Off button.

2. Hold it for 3 seconds (“Power Down 3, 2, 1”).

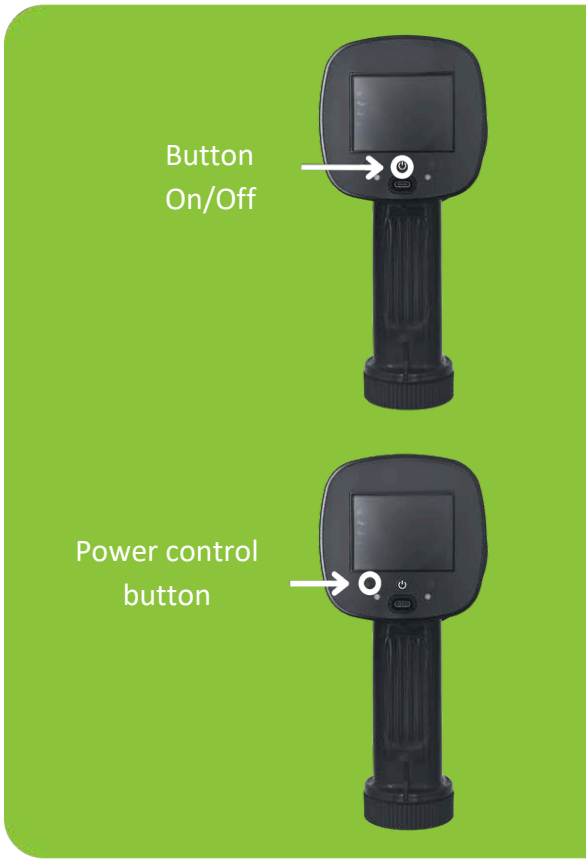
3. Release once the device turns off.

B. Modes and Settings

1. The device has two power modes: Low Power* and High Power**

2. Press the button on the left to adjust the power.

3. Each press changes mode between Low Power and high power.



*Low power mode: To be used in an environment with low or no ambient/natural light and for battery savings.

**High Power mode: Use in better lit areas for improved results.

C. Capture and Review Photos

1. In normal operating mode, hold the trigger button down.

2. Release the button, then quickly click again.

3. A confirmation message will appear on the screen, indicating that the capture was successful. BioDtex_2024-09-28_00-01-31.jpg

4. You can view the captures by clicking the On/Off button once to enter into "Review" mode.

5. Use the navigation buttons (→ and ←).

6. The images will then be automatically saved to the device for later reference.

D. Collect Images - 1st method (Computer)

1. Press the On/Off button until you reach USB Mode. The USB icon should turn green.

2. Connect the device to the computer via the supplied USB cable.

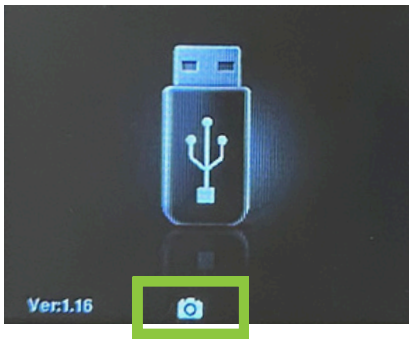
3. Press the USB icon to enter connectivity mode.

4. Accessing the image folder: The computer automatically detects the device and accesses the folder where all the images are stored.

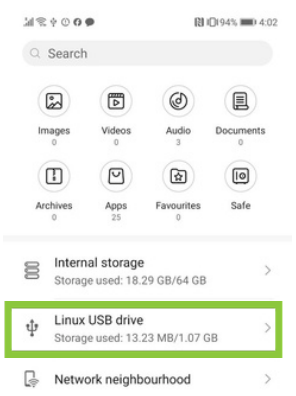
5. Viewing Images: Access this folder to view images, which can be sorted by date or file name.

6. We recommend always saving the images to your own internal files.

Once you are done, it is very important to return to the home screen and "Eject" the device before unplugging the USB-C cable. Do this by pressing the camera icon.



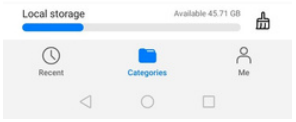
E. Collect Images - 2nd method (Phone/Tablet)



1.Press the On/Off button until the USB mode appears.

2.Device connection: connect the device to your smartphone or tablet using the provided USB cable. The connection will be established automatically.

3.Access the phone's image file **"Linux USB Drive"**; the screenshots will be stored there. See the image on the right.



4.The images can then be saved to the device or shared/transferred to others via the device's cellular data connection of WI-FI.

4. UV Check Test

A. The UV test card

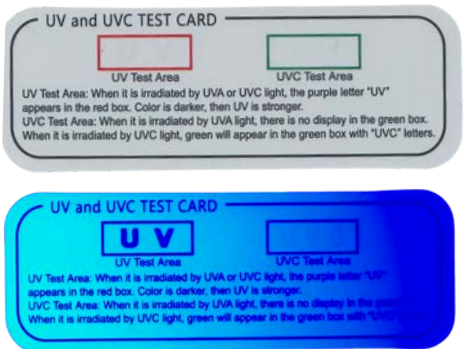
The supplied UV test card allows you to check that the LEDs are working properly.

1. Prepare the card: Place the card on a flat surface, away from direct light.

2. Turn on the lamp: Activate the UV lamp and make sure it is working normally.

3. Expose the card: Hold the lamp at a distance above the card.

4. Observe the reaction: Compare the color change with the indications on the card, as shown in the images on the right.



5. UV Detection

A. Optimal Distances for Using the BioDtex Lamp

To achieve effective biofilm detection, it's important to use the BioDtex lamp at specific distances depending on the lighting conditions. Here are some recommendations :

- **Bright lighting**: Keep the lamp at a distance of 0.5m from the target surface. This closer range helps concentrate the UV beams effectively in bright lighting conditions.
- **Moderate to low lighting**: A distance of 0.5m to 1.5m is recommended, providing good coverage while maintaining detection effectiveness in moderate to lower light conditions.
- **Complete darkness**: In a dark environment, distances of 2.0m to 4.0m can still be effective. At this range, the lamp's beam covers a larger area, allowing for detection over a wider surface.

B. Chart by material

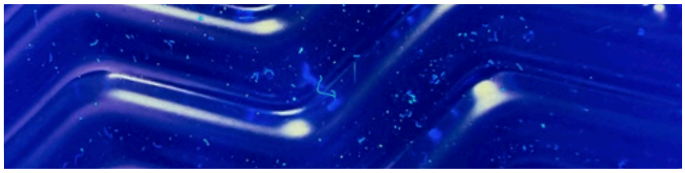
This chart shows the ability of the BioDtex UV light to detect biofilms on various materials. The scoring uses colours to indicate the effectiveness of biofilm detection on each material.

- Green: Highly efficient detection – The surface of the material allows clear visualization of biofilms under UV light.
- Yellow: Moderately effective detection – Biofilms are visible, but the surface may present challenges for precise detection.
- Orange: Less effective detection – UV light has difficulty detecting biofilms due to surface properties or texture.
- Red: Poor detection – Material properties make it difficult or not possible to detect biofilms.

Material Category	**Material Example**	**UV Scoring (Biofilm Detection)**
Metals	Stainless steel (inox)	Green
	Aluminium	Green
	Copper	Yellow
	Galvanised steel	Yellow
Polymers	Polyethylene (PE)	Yellow
	Polypropylene (PP)	Green
	Polytetrafluoroethylene (PTFE)	Green
	Polycarbonate (PC)	Green
	Polyurethane (PU)	Green
	Polyamide (Nylon)	Orange
Ceramics and composites	Ceramic	Green
	Fibreglass composites	Orange
Glass	Tempered glass	Green
	Borosilicate glass	Green
Wood	Treated wood	Green
Technical textiles	Technical fabrics (nylon)	Orange
	Food-grade felts	Orange
Rubber	Natural rubber	Yellow
	Synthetic rubber	Yellow
Paints and coatings	Epoxy paints	Green
	Non-stick coatings	Green

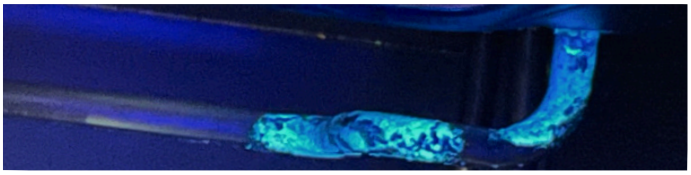
C. Analysis of Results and Interpretations

A. Blue surface spots



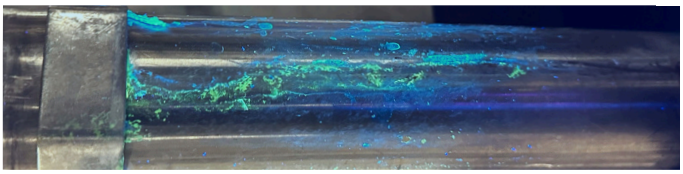
May indicate the presence of dust or non-organic particles without biological development. They may also result from residues of cleaning products or chemicals, generally considered as debris without biofilms.

B. Embedded blue/white spots



These stains indicate residues of dried organic or chemical substances. The color indicates a lack of biological development, but they can accumulate products that can contaminate if not cleaned.

C. Light fluorescent Green



The presence of green hues can signal the beginning of bacterial colonization, linked to the formation of a biofilm. These biofilms form when bacteria adhere to a surface, promoting proliferation if this is not quickly treated.

D. Bright green

Indicates bacterial colonisation with a high likelihood of biofilm presence. Requires an ATP swab or laboratory test and cleaning. Ensure intensive the cleaning operations are functioning correctly and carry out regular inspections in the area

For the complete reference guide, please contact support@biodtex.com

6. TECHNICAL SUPPORT

A. Customer Service and Procedures

For any requests or questions regarding BioDtex, please follow the procedures below:

If you purchased your BioDtex lamp from one of our distributors.	If you purchased your lamp directly from BioDtex
1: Contact the distributor directly, or their customer service.	1: Email: support@biodtex.com specifying: name, company, order number, serial number of the unit and specify the problem.
2: Email: support@biodtex.com specifying: name, company, order number, distributor name, serial number of unit and specify the problem.	

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