uvBeast.com

UV Flashlight
Model V3 365nm MINI [Revamped Sep 2023 Ed.]

Instructions & User Guide

uvBeast™

11923 NE Sumner St • STE 635709
Portland, Oregon 97250 • USA • Tel: 503-568-1586

Email: support@uvbeast.com

WARNING!

DO NOT shine UV in the eyes, nor use irresponsibly. Adult use and supervision only.

Table of Contents

UV Light WARNING

Do NOT shine UV light directly into eyes. Do not use UV light irresponsibly. Adult supervision only.

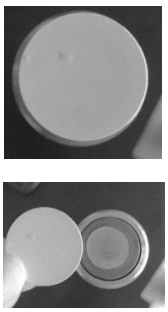
REMEMBER:
When charging is complete double-click to switch ON

Quick Start

1

Unscrew the tail cap as shown. Take care not to damage the O-rings.

You should apply some lubrication (e.g. petroleum jelly) to the threads and O-rings to prolong their life



2

Remove and discard the battery insulation cover.

NOTE: This may be affixed to the inside of the tail cap

3

Ensure battery is fitted with +ve end facing the LED head i.e. the button end facing the LED head. NOTE: Battery must be orientated correctly

4

Charging procedure. (With the battery inserted into the flashlight AND the insulation disc removed) Connect the supplied USB-C cable to the flashlight port and to a power source at another end. **Red->Green light indicates charging/charged respectively.**

REMEMBER: When charging is complete double-click (or double-half press) to switch ON

Thanks for your purchase!

This is the same professional class as the V3 models but in miniature.

uvBeast V3 365nm MINI [Revamped]. This is the same professional class as the V3 models but in miniature. This is a super portable and super convenient V3 package which offers a smaller form factor whilst retaining as much of the V3 365nm UV power as possible. Yes it's small, but don't let that fool you. It certainly packs a UV punch!

Small – Portable – Ultra convenient – Onboard charging - yet insane V3 365nm power!

In short you've made a wise choice. You've just moved into the next class from 390nm UV – and with a Lithium-ion rechargeable power source the V3 365nm MINI can support a newer tech LED to give you more UV power, more range, and more UV intensity than most other market examples. And the Li-ion battery being rechargeable will save you massive costs over non-rechargeable. We know. We've read and listened to all your gripes about the small form factor 365nm UV models available currently on the market.

Important Notice [setting your expectations]

As soon as you turn the uvBeast on you may say, "Hey this is not very bright" – but UV can never be described as bright.

Please remember this device emits majority Dark Light (or light that is not visible). So although you can't see the full ultraviolet beam, it is there! Just point it towards your area of interest and you'll begin to see objects fluoresce. As proof that your purchase works as it should and is emitting majority Dark Light, included are spectral graphs that show you how much Dark Light is being emitted – please see the Technical Section if you're interested.

Contact Us

You may contact us at support@uvbeast.com

Battery Installation

PLEASE NOTE: When unscrewing the tail cap section please do so carefully and slowly so as to not damage the O-rings. NOTE: O-rings are already fitted to the uvBeast at the threads. These seal the uvBeast from dust, moisture, and water.

Spare O-rings are inside the internal packaging ;-)

PLEASE NOTE BELOW [OTHERWISE YOU MAY THINK YOUR DEVICE IS DEFECTIVE]:

Please discard the battery insulation plastic disc found between the battery and the inside tail cap (sometimes it can affixed to the inside tail cap). It is a loose circular plastic white disc.

The Li-ion cell will be found already inside your uvBeast V3 365nm MINI. However, for transportation you'll notice a thin white disc covering the end of the cell (between the cell and the inside tail cap) – **sometimes it can get affixed to the inside tail cap.** Please discard this, as its only function is to prevent parasitic drain and circuit connection during transit. (Also, please note that the Li-ion cell will arrive semi-charged, and may need further charging). So on first start it's always best to fully charge the cell otherwise you may think the unit is defective. For future reference, **the positive end** of the cell is inserted first into the barrel i.e. the positive end must face the LED head while the negative end faces the tail cap).

REMEMBER: Double-click to switch ON

Batteries and Accessories Included

21700 Lithium-ion 3.7v Protected PCB Cell. NOTE: A 18650 cell may also be used – but it must be at least 67mm long

Some quick info on the battery. We'll only really convey what's most important. Each of the cells is designated as "protected". This means that there is a PCB fitted to the battery which prevents the cell from two events happening: (1) Over-charging the cell, and (2) Over-discharging the cell. Both can damage the cell and adversely affect long-term performance.

The li-ion cell can be charged between 300 to 500 times as given by industry benchmarks, but this is also acknowledged to be conservative and so you may even achieve up to 700 to 1000. These are known as "charge cycles" where one-cycle is

equivalent to fully charging the cell and then fully discharging the cell. To further optimize the full working life of the 21700 cell it is better practice to charge the cell when it is about 80% depleted rather than fully depleted, although full depletion with a "protected" cell is however still acceptable.

A 18650 lithium-ion cell can also be used – but it must be at least 67mm long.

For those of you who just might have geek-ish inclinations, the supplied cells are not "true" or pure ICR types (i.e. lithium-cobalt), since they also have good amounts of Nickel and Manganese (similar to INR and IMR) in them, more so than the older or more prevalent lithium-cobalt type (ICR).

You really have made a wise choice. The Li-ion cell is often hailed as the "cell of the future" due to its relatively high voltage and its ability to sustain discharge at relatively high voltage levels. So any flashlight using a Li-ion cell is a good indication that there's serious power on tap. But, the number one advantage is that being rechargeable they'll save you a large cost outlay on non-rechargeable cells, bringing down the total-cost-of-ownership of a flashlight to very low levels.

Especially when you consider they'll last for years to come, after which you simply buy a new set to start the lifetime-cycle again.

How to charge

Note that there are two accessories including for use when charging: (1) A USB-C cable, and, (2) A USB mains power adapter (optional to use).

Using the USB-C cable supplied connect one end to the on-board charge port just under the LED head, and connect the other USB end to a power source. Charging will begin. Charge completes when the charge light indicator changes color (red->green). For fastest charging (optional) use the supplied mains adapter and connect the adapter to a mains supply power socket.

WATCH OUT: If you're using a different USB-C cable, the protrusion length of the C connection may not be standard, so the connection into the flashlight won't be made and it won't charge. And of course, you may think the flashlight is faulty ☹

USB-C
The charge cable is a USB-C type. This is the next generation progression from micro-USB. Micro-USB is used by many older design flashlights. USB-C is a more robust mechanism than its micro-USB predecessor. USB-C cables from other devices are suitable for use with the uvBeast 365nm MINI. But note: **Some USB-C cables have too short a protrusion length of the C connector. So check for a connection if charging does not commence when using other USB-C cables.**

Features

REMEMBER: Double-click to switch ON

- **Professional grade 365nm UV**
- **High intensity 365nm UV (with high flux density)**
- **Capable Under Interior/Ambient Lighting**
- **Small convenient pocket-fit form factor**
- **On board battery charging (eliminates the need to remove the battery and eliminates the need for a separate charger)**
- **Optional use of mains adapter**

Your uvBeast V3 365nm MINI includes the accessories you need so it's ready-to-use straight out of the box. Note: Some models may vary with the following accessories. It includes:

(1) USB-C cable,
(2) USB mains adapter to connect to a mains power supply (use of this is optional),
(3) A 21700 button-top lithium-ion rechargeable cell, 3.7 volts, with PROTECTED PCB (to prevent over charging and over discharging), and,
(4) Two spare O-rings (NOTE: O-rings are already fitted)

PRO-TIP: Double Half Press the on/off switch for ease of operation. Then when you're done, it's a single half press to switch off (or a single click if you refer that).

Specifications

Wavelength	**365nm**
Optical Power/Radiant Intensity	**~500mW**
Irradiance (UV power per unit area)	**~2400µW/cm²**
UV Beam Distance (dark conditions)	**20-30ft**
UV Beam Distance (ambient room light conditions)	**6-8ft**
UV Beam Width	**6-8in**
Battery Type	**[Supplied] 1x Rechargeable 21700 Lithium-ion 3.7v with Protection PCB.** 18650 cell can also be used - but it must be at least 67mm long.
Battery Life (Working time)	**~5-6 hours**
IP Rating	**IP65 (will prevent water ingress from jet sprays), but is NOT submersible**

Care and Maintenance

Please lubricate (e.g. with petroleum jelly) the threads at the tail cap of the flashlight at various intervals. This will preserve and maintain thread integrity when unscrewing the tail cap section.

Please lubricate the O-rings located at the tail cap thread at various intervals. This will prolong the life of the O-rings as well as maintain their function to prevent the ingress of dust and moisture.

If the batteries are drained excessively, the protected PCB circuit may activate to prevent damage to the 21700 battery due to over discharging. If this is the case the battery will auto shut off and will require charging. In this event charging may require longer than normal **(up to 24 hours)**. So please wait until the charge indicator light turns GREEN. This is to preserve the battery chemistry. On subsequent charges the charging time will resume to normal.

Battery Safety

NOTE: Battery damage due to misusage will not be covered under warranty, likewise damage to the V3 365nm MINI caused by batteries other than the supplied batteries will also not be covered by warranty.

Do not place damaged batteries in the V3 365nm MINI

Do not store batteries in pockets or close to metal objects when kept outside of the V3 365nm MINI

Do not tamper with the batteries

If the batteries fail to charge after a number of successive attempts, this indicates that the PTC mechanisms have activated to make the battery safe and will be deactivated permanently. This is a built in safety precaution. **Do not** try to activate batteries which have been deactivated

Troubleshooting **REMEMBER: Double-click to switch ON**

LEDs are not coming on

Please ensure and check the following:

1. Is the 21700 cell inserted the correct way around?
Obvious we know, but it is a learning curve with many not totally familiar with 21700 nuances. **The positive end of the 21700 cell must face the LED head.** So, with button-top cells the button end faces the LED head, meaning that the other negative end faces the tail cap end. We have definitely encountered this issue on many occasions - it's a very quick fix and an even quicker check to make sure this isn't the reason why your V3 365nm MINI won't turn on.

2. Is the 21700 cell fully charged?
Again, an obvious thing to some, but again it's a 21700 learning curve thing. Either check that the cell is fully charged to 4.2 volts or failing that ensure that the charge indicator on the flashlight has changed color (from red to green).

3. Have you removed the battery insulation disc?
For transportation you'll notice a thin white disc covering the end of the cell (between the cell and the inside tail cap) – **sometimes it can get affixed to the inside tail cap.** Please discard this, as its only function is to prevent parasitic drain and circuit connection during transit. (Also, please note that the Li-ion cell will arrive semi-charged, but may need further charging). So on first start it's always best to fully charge the cell otherwise you may think the unit is defective. For future reference, **the positive end** of the cell is inserted first into the barrel i.e. the positive end is facing the LED head while the negative end faces the tail cap).

4. Checked all of the above but still the V3 365nm MINI will not turn on.
Remember: **Double-click to turn ON (or double half press).**
Do ensure you've carried out the previous checks - as we've found that in most cases these resolve. In some rare cases, the cell supplied will need to be charged again. The PCB protection inside the cell sometimes (in rare cases) needs another charge cycle attempt to "wake up" the cell, and will require an extended charge period (up to 24 hours).

Please check out our Help Center & Knowledge Base on our official website here: https://uvbeast.com/pages/help-center

Otherwise, please contact us on our site and we'll resolve ASAP.

UV emission appears to be not all that strong (i.e. weak UV)

Firstly, the light output from a (non-visible) UV light will **not** be of comparable brightness to a regular white light flashlight. Carry out a test with objects known to vividly fluoresce such as washed whites (garments), white paper, fluorescent materials, etc. If you don't see vivid fluorescence in this test, then this is due to one of two things. A defective unit, or more likely, a battery issue. **Before contacting us regarding a defective unit**, please try the following. Replace with a new 21700 or 18650 battery to check for a defective cell, (if using a 18650 type it must be at least 67mm long).

Light getting "dim"

If at any point you find the uvBeast getting slightly "dim" after many hours of continuous operation, it's usually because the battery is getting low on voltage, and it is time to charge.

I have OTHER issues

Please check out our Help Center & Knowledge Base on our official website here: https://uvbeast.com/pages/help-center - most likely we've addressed it there since we continually update common issues people run into. (You can also do a search on our website).

Using UV Light

The current uvBeast models emit ultraviolet light in the following wavelengths (measured in nanometers). 385-395nm and 365nm, depending upon your model.

Visible light is at around 400nm and above to the infrared spectrum.

Getting Best Results

Different substances will fluoresce ("shine") at different UV intensities. Whether you had domestic or commercial applications in mind, the principle is "the darker the conditions the better" to unleash the full power of the uvBeast. However, that sometimes isn't always possible nor practical (to achieve darkness) so you'll still get a decent 4-6ft beam range in ambient light conditions.

> TIP – Scan a general area first to illuminate, and then shine closer to investigate & spot.

Sometimes, in ambient light, you may need to go closer, depending upon the fluorescence intensity of the substance investigated. (Scorpions are the exception. At night/dull conditions, boy do they glow electric blue/green – except from very young ones and also adults if they just molted their skin.

What Can the uvBeast Be Used for?

Whether your needs are commercial or domestic uvBeast will not disappoint. You'll save time, effort, and money with those sanitization jobs, looking for otherwise invisible fluorescence, or just about any other UV task you have in mind.

As an example of the benefits of UV, rather than clean an entire area "just in case", now you can pin-point and spot-treat the specific area. Without UV light, stains are difficult to spot or are invisible. Now, those stains will glow bright. Among other applications that require UV light, uvBeast is especially designed (but not limited to) to fluoresce or react with the following:

- **Gems, Rocks, and Minerals** (items such as rubies, diamonds, yooperlite, opal, etc.)

- **Cat/Dog urine** (Note: urine needs to be dry - as wet/fresh urine doesn't fluoresce under UV, but a wet urine stain is easily spotted by the eye anyhow)
- **Scorpions and their dens** (but the very young, and adults just molted may not glow as much)
- **Rat/Mouse urine trails** (appear as small dots since they urinate and defecate as they travel and eat)
- **Human Body Fluids** (urine, semen)
- **Unsanitary stains**, and the like
- **Leak Detection** (UV dyes as well as calcium deposits from water leaks)
- **Conformal Coating Detection** (e.g. poor glue coverage on items, paint anomalies, etc.)
- **UV Curing** (resins and adhesives including LOCA)
- **Other VERY handy applications** which require 365nm UV light - such as UV adhesive curing, Artwork and antique inspection, Fluid leak detection (vehicles and a/c units), Crime and forensic investigation, Narcotic detection, NDT, PCB conformity checking, Property hygiene appraisal, UV photography, UV paint charging and fluorescence, Charging of fishing lures, Charging of golf discs, Egg inspection, Gemstone identification (rubies, diamonds, etc.), Caterpillar identification (including the Tomato Hornworm crop destroyer), Resin detection (like glue, wall paint, etc.), Fossil detection, Mineral fluorescence (limited under 365nm), Vaseline glass identification, Banana inspection, Ringworm and mold detection (not all species),...and in fact the list goes on (if that wasn't enough).

You can see more details/instructions on these and more on our website (uvbeast.com) by doing a search. If you have any other uses let us know and we'll include it!

Domestic applications

Identifying vermin activity, treating areas where pets foul, finding hidden scorpions (especially the Bark Scorpion) and their dens, and checking sanitization levels all over the house. So whether you're monitoring or discouraging your pets'

unsanitary practices, keeping scorpions at bay, or checking up on sanitization levels before/after cleaning, uvBeast will be your useful assistant.

Commercial applications

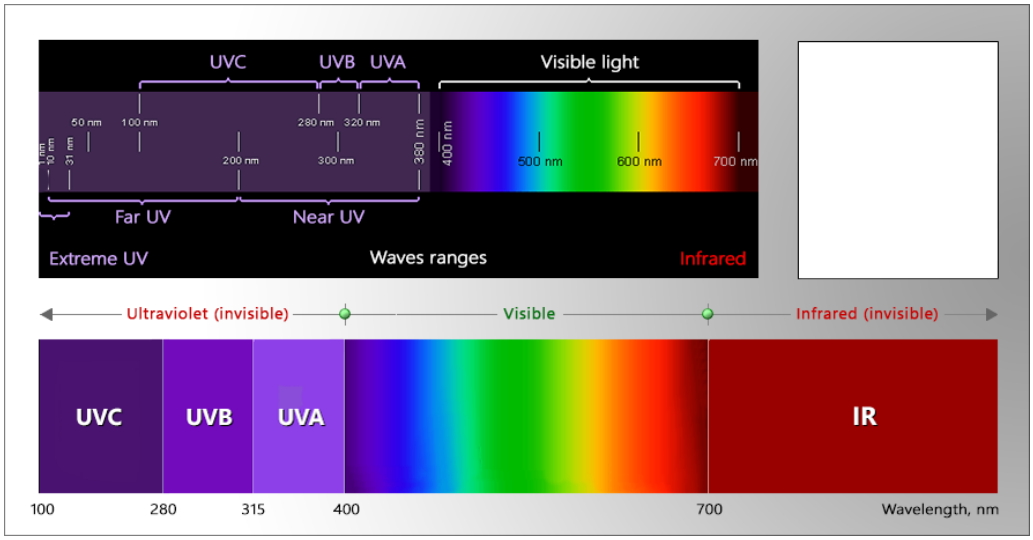
Verifying sanitizations levels in properties, restaurants, hotels, kitchens, pest control efforts, and cleaning services, giving you before and after evidence-based verification as proof that you can show your clients, tenants, guests, customers, or contracted services.

You'll benefit greatly from this type of oversight, making you and your staff more productive, do more in less time, and save wasted effort and money. Cleaning or inspecting? Pin-point stains and substances accurately and instantly without wasting time, effort, and missing hard-to-spot substances.

Same applies to all other UV applications such as identifying leaks from devices/machinery. The UV intensity will accelerate your ability to identify most if not all hidden leaks and anomalies thus greatly reducing and effectively addressing operational risks.

Technical Section

The Electromagnetic Spectrum and UV



Depending upon which uvBeast model you have the device will emit UV at 385-395nm or 365nm.

How it all works?

The uvBeast V3 365nm emits UV light at 365nm wavelength of light in the invisible light spectrum, which is below visible light that we can see. Past the violet at the end of a rainbow. Light (or photon particles) at this wavelength when making contact with types of substances, causes excitation. The excited substance then emits light back in the visible spectrum (fluorescence), which we can see in the visible spectrum.

What difference does the higher power from uvBeast make?

Well, the name of the game is [1] To have a UV light source emit a better (lower) wavelength of UV light than at least 400nm, and the lower the better, and [2] The intensity of the UV light source. Most UV lights of this type are weaker UV LED flashlights (meaning less intense useable UV) but perhaps "bright" visible non-useful light). The purpose of your purchase is to possess high intensity powerful UV light and therefore what you expect is more non-visible UV light rather than visible light. This is further enhanced with the fitted filter as the "lens". It acts to block any visible light but allow UV at 365nm to pass-through. The test of all of this is fluorescence and not "brightness" of the light source itself. Irony here is that you can't see the invisible UV light, so the only way to tell is to test how vividly objects fluoresce back to you.

Typically, most UV flashlights have not been designed to emit high intensity UV. The higher the intensity, the greater the excitation. The greater the excitation, the better the results.

Spectral Quality

The accompanying graph below, illustrate the very high UV capability of your purchase. Anyone can say, "Our manufactured UV light is "super bright", "high flux", "super high flux", or even "the best in the universe".

But, how would you, the consumer really know? After all with a regular "visible light" flashlight that's easy to determine. But remember, this is Dark Light (invisible light) that you can't see. At uvBeast we get that, so we have provided spectral proof of the UV light emitting capabilities of your purchase.

The graph shows a good and tight dispersion of useable 365nm UV light with little straying into the visible spectrum region – which is EXACTLY what you want.

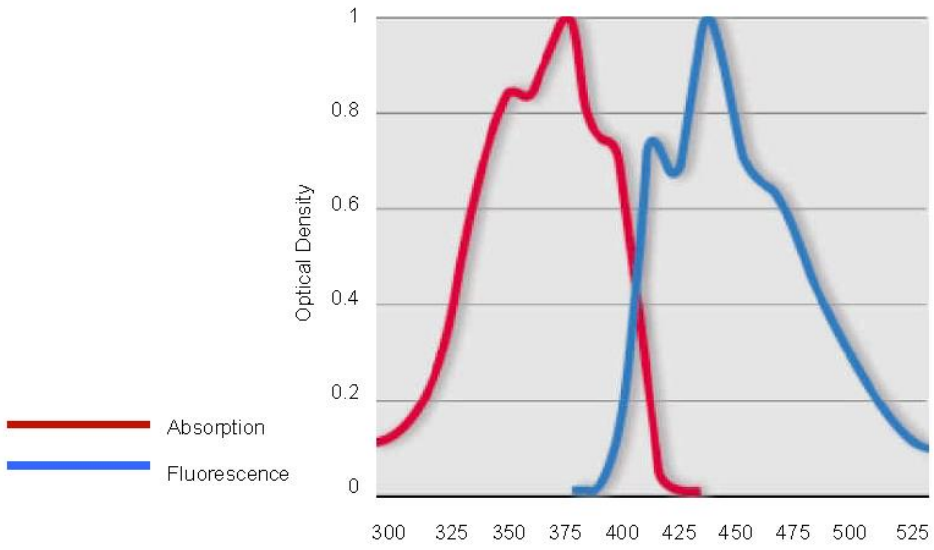
365nm UV is far superior and it is the type of UV light you really want. The problem has always been the balance between cost and power/intensity (or the lack of it). Good 365nm examples we've come across are $100+ whilst the cheaper ones are sadly not useful in the slightest being too weak – just our honest opinion from usage. We believe we've come a step closer to solving that problem. You'll see from the technical data that most objects react best under 365nm (or achieve peak excitation at 365nm), and it is this "sweet spot" that stimulates the most fluorescence back to you. Have a research of 365nm UV light and you'll see what we mean.

We knew that it would be harder to achieve the same power and intensity as the uvBeast V3 model which emits at a longer 385-395nm wavelength, but we realized it is time for it. Folks are getting much more familiar with UV than back in 2015 when we launched our very first V1 uvBeast. No matter how powerful the UV is at 385nm to 395nm, you just can't get the same results as 365nm. It's a well-known fact. 365nm is well below visible light.

uvBeast.com

Take a look at the graph below and you'll see that objects that react to UV light do so much better under 365nm (as compared with 395nm). In geek speak we'd say that peak excitation occurs at 365nm whereby higher energy radiation is emitted back in the visible spectrum, than it would if stimulated by 395nm UV light.

Objects that react to UV light do so much better under 365nm (as compared with 395nm)



The graph below shows the UV flux range. You'll see that the uvBeast V3 365nm peaks at 365nm at 100% output, with very little spilling over into the visible light spectrum. Thanks to the UV LEDs and the high-spec on-board filter which blocks any trace of non-useable visible light (which is present with all LED tech btw albeit in miniscule amounts), but allows UV 365nm to pass-through.

You'll see that the uvBeast V3 365nm peaks at 365nm at 100% output, with very little spilling over into the visible light spectrum