

Prizmatix UV Torch



User Manual

Version: 2.0

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UV Torch Description

The UV Inspection Torch is a handheld intensive UV light source for Non-Destructive Testing (NDT). Illumination is provided by a quad-chip UV LED. The torch's head supports rapid attachment of optical elements of a lens or light guide. A 3-meter long power cable connects the torch to its controller.

General Specifications

Wavelength: 365nm

Attachment type: Spring loaded plungers for quick attachment of optical accessories.

Power: 110VAC 60Hz converted to 24VDC.

Safety

Before supplying electricity to the power adaptor of the UV Torch, ensure that the protective conductor of the 3-conductor mains power cord is correctly connected to the protective earth contact of the socket outlet! Improper grounding can cause electric shock and damage your health or even cause death!

When wiring the device, disconnect it from the power source and turn it OFF at the main system switch on the front panel of the controller. Not doing so may result in electric shock, injury and/or damage of your equipment.

The UV Torch must not be operated in explosion endangered environments!

Any maintenance shall be performed ONLY by a Prizmatix authorized technician.

The UV Torch emits a ultra-violet intense light at the lens or tip of the light guide during operation. Precautions must be taken to prevent looking directly at the UV light with unprotected eyes, or illuminating the UV light on skin. Do not look directly into the UV light or look through the optical system during operation of the torch: this can be harmful to the eyes even for brief periods due to the high intensity of the UV light.

**Always use light UV protective glasses to avoid damage
by the intense light while working with the torch.**

The UV LED produces heat while working. It is equipped with passive heat dissipation heat sink and active fan which operates when the LED is turn ON.

Ensure that:

- The torch is not covered, especially the heat sink and fan.
- The heat sink and fan are kept free from foreign bodies that may disturb air flow.
- Air circulates and flows freely around the heat sink and fan.

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Setup of the Device

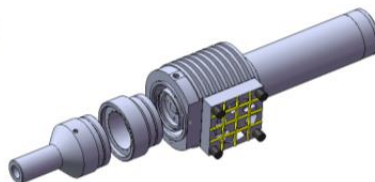
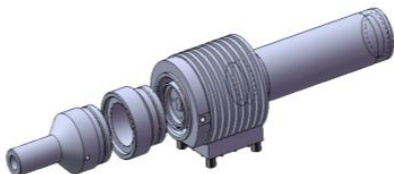
Remove the device from the packaging and inspect the device for loose components or any signs of damage. Notify Prizmatix if the device appears damaged in any way: do not install a damaged device.

Package Contents



Kit contents from left to right: mains cable, 3-meter LED cable, Controller box, UV Torch with front lens installed, light guide adaptor, light guide tip collimator, 24VDC power supply.

A small fan and protective metal grille are installed in the bottom of the torch, to actively cool the torch. The fan is connected to the bottom of the heat sink and move air up from bottom of the box. The fan takes the power directly from the flashlight. Fan dimensions are 40x40mm by 10mm high.



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Operating the UV Torch

The UV LED Torch is delicate optical instrument – it should be handled with care:

- Do not touch the lens optical surface by hand or with any instrument, see cleaning instructions.
- Do not step over electrical cables.

Connect the UV Torch to the connector on the controller's back panel using the 3-meter long cable. Connect the DC plug of the power supply to the controller, then connect the power supply to the mains cord and to the 110V 60 Hz source.

When you are ready to work, turn the system ON using the ON/OFF switch on the front panel of controller. The red LED indicator in the switch will glow when device is ON.

Important:
TURN LED OFF WHEN NOT BEING USED!

The LED is instantly switches on and off and multiple switching of the LED increases its lifetime: there is no advantage in keeping the LED on.

Important:
Make sure the fan is working while the LED is turned on!

Correct Attachment of Accessories to UV Inspection Light

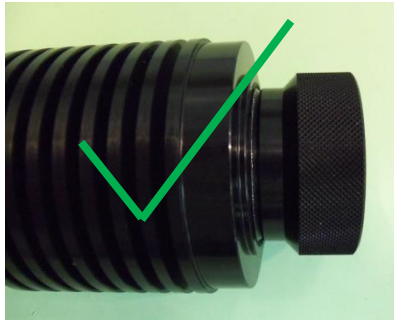
The UV Torch head can be equipped with a lens for wide illumination, or a light-guide to access narrow spaces. Two pre-set spring-loaded plungers in the head are responsible for securing the attachment to the UV Torch head.



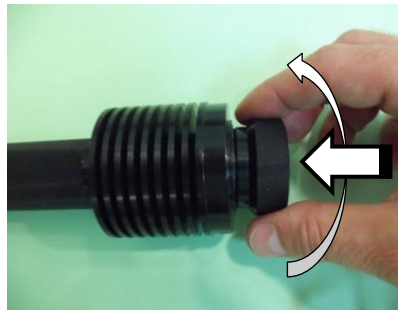
Lens Attachment

Ensure that the lens attachment is perfectly aligned with the UV Torch head:

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Hold the lens firmly and press towards the torch head, keep the lens aligned and push until it is clicked in. A small twist while pressing may help overcome the initial static friction. Do not touch the optical surface of the lens or the LED.



With the correct attachment of the lens the beam should appear as in the image below:



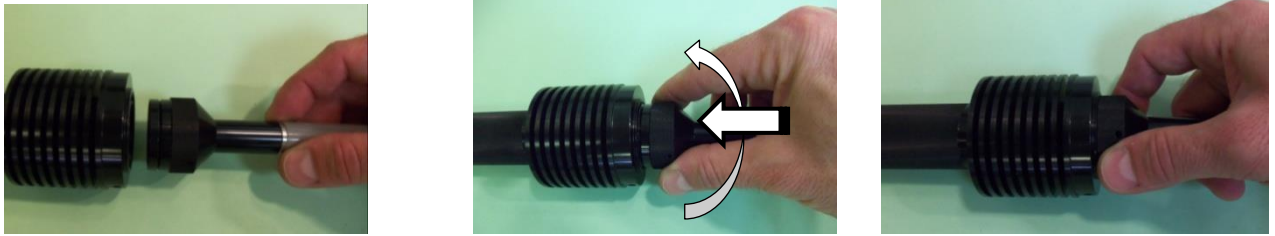
Light-Guide Attachment

Insert the light-guide into its attachment, making sure it is completely inserted. The light-guide will protrude slightly inside the attachment.

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Pressing and twisting will click the adaptor into place:



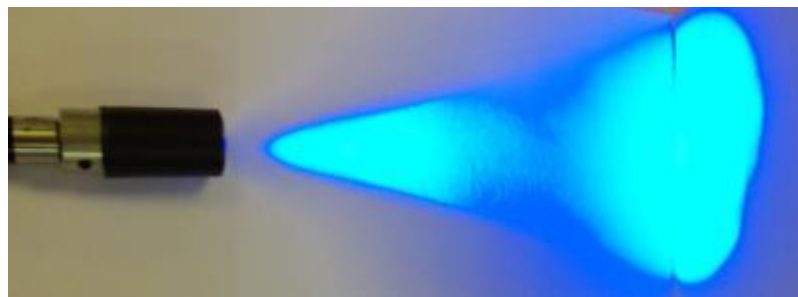
The end tip Collimator should be installed at the outer tip of the light guide in its nominal position. Lock it into place with two small M4 set screws, using the provided hex key. Using this hex key it's possible to release the lock and relocate the Collimator.



Collimator in nominal location



Collimator is set a bit forward



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Use this adjustment to provide your appropriate lighting scheme, e.g.:



ATTENTION: Follow these steps in case of overheating during UV Torch operation:

- In case of overheating – turn off Torch immediately and let cool.
- Check the fan and heat sink fins and ensure that they are not clogged.
- When cooled – turn on Torch again and check that the fan is working.

Cleaning

Disconnect the UV Torch from mains plug before cleaning.

Change lens and light guide adaptors quickly and in a clean environment, do not let debris or dust enter the exposed LED compartment. The LED compartment may be cleaned by clean air. If necessary, use a soft swab with alcohol and gently clean the LED and leads, then let dry.

Keep the torch away from dirt and do not allow the heat sink or fan shield to become clogged.

Do not try to clean the Torch when the LED is on.

The Torch housing can be wiped with slightly moist wipes.

Do not attempt to use chemicals such as alcohol or acetone as this may damage the plastic components.