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Lumiworks-Photonics Ltd.

USER MANUAL

UHP-M-NDT

Light-Guide Coupled UV LED for NDT Applications

(Dye Penetrant Inspection)

Version: 7

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Contents

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1   Introduction

Lumiworks UHP-M-NDT Ultra High-Power UV LED is a self-contained light-guide coupled light source including all the necessary driver electronics and thermal management. The illuminator contains a single-die high-power LED coupled to a light-guide connector where the flexible optical light-guide is connected. The LED light is emitted at the distal end of the light-guide.

1.1   Features

- Ultra-High Power UV LED
- Internal filter blocking visible light
- Long life (no lamp or laser tube replacement required)
- Rapid warm up time
- Steady illumination

1.2   Intended Use

The UHP-M-NDT illuminator is intended for used as a light source in fluorescent penetrating-die NDT applications.

2 Safety

Please make yourself familiar with the contents of these operating instructions before using the UHP-M-NDT illuminator. Use the illuminator only as specified in this manual. Otherwise, the protection provided by the illuminator may be impaired.

The following symbols are used for the warnings:

⚠ **CAUTION!**   Failure to comply with the safety instructions can be hazardous to the user.

⚠ **CAUTION!**   Failure to comply with the safety instructions can result in damage to the instrument.

Do not use the illuminator if it is damaged. Before you use the illuminator, inspect the case. Look for cracks or missing parts.

⚠ **CAUTION!**   Do not use the illuminator without the light-guide.

⚠ **CAUTION!**   Do not use the device around explosive gas.

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Never operate the illuminator with the cover removed or the case open.

Any maintenance should ONLY be performed by a Lumiworks authorized technician.

> Lumiworks products are NOT authorized for use as components in life support devices or systems.

> WARNING. UV emitted from this product.
> Avoid eye and skin exposure to unshielded product
>
> CAUTION. UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding.
>
> CAUTION. Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to the eyes.
>
> WARNING. Possibly hazardous optical radiation emitted from this product. Do not look at operating lamp. Eye injury may result.

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3 Device Setup

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

3.1 Package Contents List

UHP-M-NDT - illuminator	Power Adaptor and Manis Cord
LLG-5-NDT – Light-guide	LLG-C-NDT - Collimator for LLG-5-NDT

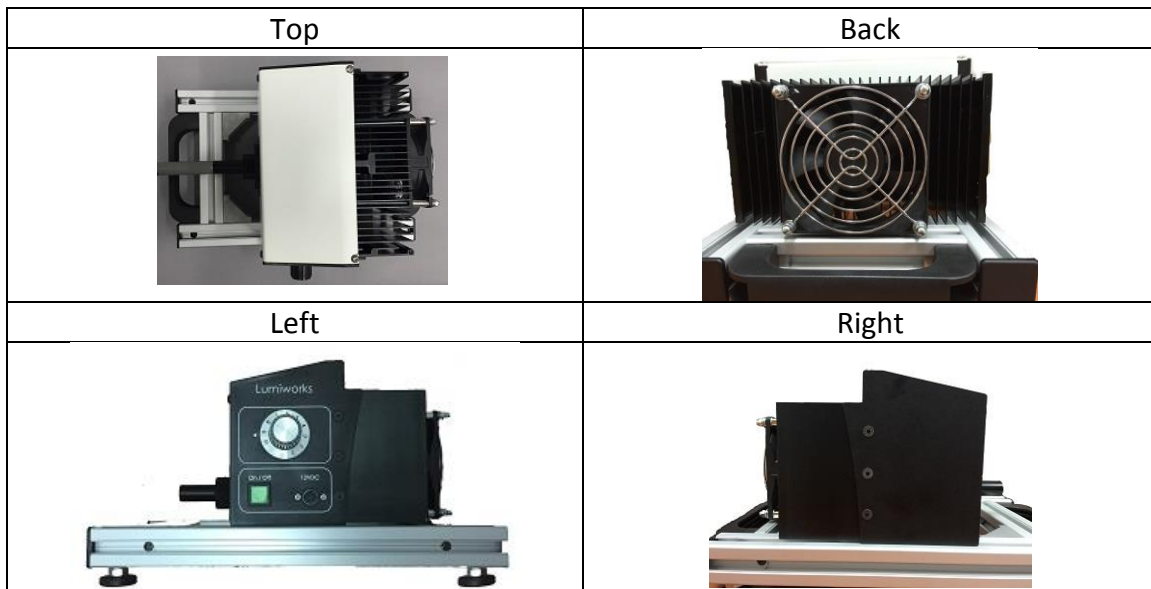|	Item P/N	Description	Quantity
1	UHP-M-NDT	UV LED Illuminator: Ultra High-Power Light-guide Coupled Light Source	1
2	Power Adaptor	Universal power adaptor and mains cord to be used with the illuminator	1
3	LLG-5-NDT	Light-guide to be used with the illuminator	1
4	LLG-C-NDT	Collimator to be used with LLG-5-NDT light-guide	1

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3.2 Specifications

3.2.1 Electrical Specifications

ON/OFF		Power Button
Intensity adjustment		Side-panel Knob
Input Voltage (Float)	V	12
Power Adaptor Input		85-264 VAC, 47-63 Hz, 1.5 A

3.2.2 General Specifications

Operation temperature range	°C	10 - 35
Storage temperature range	°C	-10 - 55
Operating relative humidity (Non-condensing)	%	<90
Dimensions	mm	L x W x H: 320 x 200 x 175
System weight	Kg	4.0
Power adaptor dimensions (L x W x H)	mm	167 x 240 x 35
Power adaptor weight	g	620
Power Adaptor Safety		

3.2.3 System overview

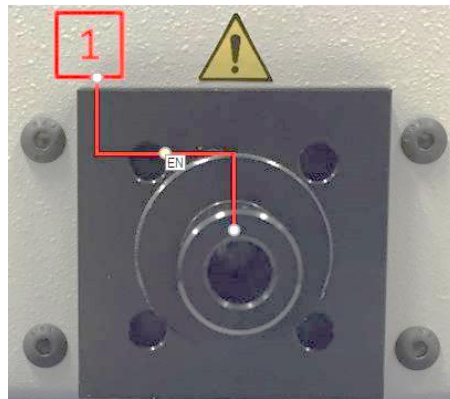| Top	Back
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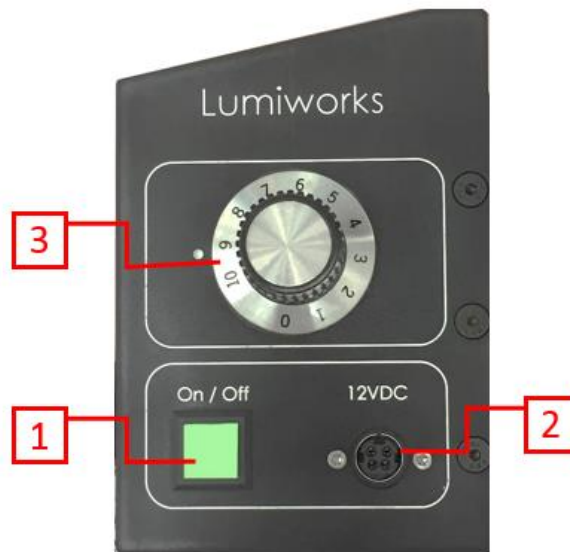
3.3   UHP-M-NDT illuminator Operating panels

The front panel of the illuminator unit features: (1) Light-guide port

Illuminator front panel

The side panel of the illuminator unit features: (1) Main power switch, (2) Power adaptor input socket (3) Power dial

Illuminator side panel

> ⚠ **CAUTION!** Do not use the illuminator without the light-guide connected to light-guide port!

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3.4   Initial UHP-M-NDT illuminator Setup

1. Ensure the power switch on the side panel of the unit is in the OFF position. Connect the power adaptor to the side panel socket and plug in the power supply. NOTE THE PROPER ORIENTATION FOR THE CONNECTOR KEY.

2. Connect the Light-guide to the Light-guide Port – make sure it is inserted all the way through. Use only LLG-5-NDT Light-guide provided by Lumiworks LTD, or Lumatec GmbH, P/N 4200.3000.

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3. The end tip collimator shall be installed on the LLG-5-NDT light-guide end tip, in its nominal position. Lock it in place by two small M4 set screws, using the provided hex key.

Collimator in Nominal location

4. Press the green power button on the side panel to power up the unit.
5. Turn the dial Clockwise to turn on the light. Set the desired intensity.

⚠️**CAUTION!**: Do not stare at operating lamp. May be harmful to the eyes

6. when finished, switch the unit off by depressing the power button on the side panel.

> ⚠️ **CAUTION!:** Never disconnect the power cord from the product before switching the ON/OFF switch on back panel to OFF position

3.5 Cleaning

Keep the light-guide port clear from dirt and do not leave it open. Make sure to close the light-guide port with a cap when the Light-guide is not connected.

> ⚠️ **CAUTION!**: Do not try to clean inside the port – you may damage the illuminator!

The box can be wiped with mild wet-wipes.

> ⚠️ **CAUTION!**: Do not attempt to use chemicals, e.g. Alcohol or Acetone – you may damage plastic components