

# INSTRUCTION MANUAL

## SAFETY PRODUCT, Model FSS2013

Thank you for purchasing the SAFETY PRODUCT, FSS2013. This instruction manual is written for the users of the Illuminator for inspection. To ensure correct usage, read this manual carefully before operating the instrument.

- It is prohibited to reproduce or transmit this manual in part or whole without our company's expressed permission.
- The contents of this manual are subject to change without notice.
- Although every effort has been made to ensure the accuracy of this manual, if you note any points that are unclear or incorrect, contact your nearest our representative.

### Warning/Caution Symbols Used in This Manual

Although our products are designed to provide you with the utmost safety during use, incorrect usage or disregard of the instructions can cause personal injury or property damage. For your safety, read the instruction manual carefully and thoroughly before using the instrument. Do not discard this manual but keep it near the product for easy reference.

In this manual, safety instructions are indicated with the symbols shown below. Be sure to follow the instructions indicated with these symbols to ensure correct and safe operation.

Symbol	Meaning
 <b>DANGER</b>	Disregarding instructions marked with this symbol may lead to serious injury or death.
 <b>WARNING</b>	Disregarding instructions marked with this symbol may lead to serious injury or property damage.
 <b>CAUTION</b>	Disregarding instructions marked with this symbol may lead to injury or property damage.

**CAUTION****1. Intended product use**

This illuminator should only be used for wafer observation. Do not use it for any other purpose.

**2. Do not disassemble**

Disassembling may cause malfunction and/or electric shock. Do not disassemble any parts other than those mentioned in this manual. If you notice any malfunction, notify your nearest representative.

**3. Read the attached manual**

For your safety, read the manual carefully and thoroughly before using the instrument.

Do not discard this manual but keep it near the product for easy reference.

This manual includes the description for setup and maintenance with the operations.

**4. Power supply cord**

Use only the following power supply cord. Using the wrong power cord could result in danger or fire.

The protection Class I equipment should be connected to PE (protective earth) terminal.

- For AC100-120V area

UL Listed, detachable power cord set, 3 conductor grounding Type SVT, No. 18 AWG, 3 m long maximum, rated at AC125V minimum.

- For AC220-240V area

Approved according to EU/EN standards, 3 conductor grounding Type H05VV-F, 3 m long maximum, rated at AC250V minimum.

**5. Only use the specified lamp**

The power supply unit provides the power for the lamp that serves as the illuminator light source.

This unit can supply the power for the lamps (seven units) of DC12V, approx. 100W.

The specified lamps must be used, otherwise, the illuminator could be damaged.

**6. Precaution for replacing the lamp**

To prevent burns, allow the lamp to cool for at least thirty minutes after turning off the power switch before replacing it. Furthermore, to prevent electrical shock and damage to the power supply unit, always turn off the power switch (flip it to the “○” side) and unplug the power cord before replacing the lamp.

After replacing the lamp, be sure to attach the illuminator cover securely. Never use the illuminator without its cover.

**7. Do not wet the illuminator**

If the illuminator gets wet, a short circuit may result that could damage it or make it extremely hot.

If you accidentally spill a liquid on the illuminator, immediately turn off the power switch (flip it to “○” side)

And unplug the power cord. Then use a dry cloth to wipe away the moisture. If any liquid gets inside the illuminator, do not use it; instead, notify your nearest representative.

**CAUTION****8. Heat from the light source**

The enclosure of the lamp become extremely hot. To avoid burns, do not touch the enclosure while the lamp is lit or for thirty minutes after it has been turned off.

Furthermore, in order to avoid the risk of fire, do not place fabric, paper or highly flammable materials such as gasoline, petroleum, benzine, paint thinner or alcohol near the enclosure of the lamp while it is lid for about thirty minutes after it has been turned off.

**HANDLING****1. Handle with Care**

This illuminator is a precision instrument. Handle it with great care, make sure that the illuminator is not subject to any shocks. If the illuminator has a strong shock, it would happen to be damage the lamps of the inside.

**2. Operation Conditions**

Install the illuminator under the following conditions to ensure safe and reliable operation.

- Although the ambient temperature and humidity must be 10°C to 30°C and less than 85%RH, non -condensing, respectively, it will be recommended in a clean room at a semiconductor plant.
- The power supply unit must be installed on a level surface so that it will not fall, which may result in damage.
- The specified attachment of the illuminator unit provided by our distributor must be installed according to the instructions which are described about the attached instruments respectively.

**3. Do not touch the front glass of illuminator**

Do not touch the front glass of the illuminator to prevent the degrading performance of illumination.

**CARE AND MAINTENANCE****1. Illuminator front glass cleaning**

Do not let dust, fingerprints, etc. get on the glass. Dirt on the glass will adversely affect the performance of illumination. If any of the glass gets dirty, clean it as described below.

- Either brush away dust with a soft brush, or gently wipe away with gauze.
- To remove fingerprints or grease, use a piece of soft, clean cotton cloth, lens tissue, or gauze moistened with absolute alcohol (ethyl alcohol or methyl alcohol).
- Absolute alcohol is highly flammable. Be careful when handling them, when around open flames, or when turning the power on and off.
- Follow the instructions provided by the manufacturer when using absolute alcohol.

## 2. Storage

Store the illuminator in a dry place where mold is not likely to form.

Put the vinyl cover the illuminator after use to protect it from dust.

Before putting the vinyl cover, turn off the power supply unit (flip the switch to the “○” position), and wait until the illuminator has cooled.

## 3. Regular inspection

Regular inspection of this illuminator is recommended to maintain peak performance.

Contact your nearest Nikon representative for details about regular inspection.

# LAMP INSTALLATION AND REMOVAL (LAMP REPLACEMENT)



## CAUTION

- To prevent burns, allow the lamp to cool for at least thirty minutes after turning off the power switch before replacing it. Furthermore, to prevent electrical shock and damage to the power supply unit, always turn off the power switch (flip it to the “○” side) and unplug the power cord before replacing the lamp.
- After replacing the lamp, be sure to attach the illuminator cover securely. Never use the illuminator without its cover.
- Use the specified lamp Type UDA100 provided by our distributor.
- Do not touch the lamp with your bare hands.
- After replacing the lamp, make sure the lamp cover is attached securely. Never use the illuminator while its cover is off.

## Replacing procedure

1. Check that power supply switch is off (i.e. , that it is flipped to the “○” side)
2. Disconnect the cable from the power supply unit.
3. Remove a illuminator unit from the attachment. Be careful not to fall a unit to the instrument or floor.
4. Place the illuminator unit on the flat table without vibration gently.
5. Use a screwdriver to loosen the screws on the front of illuminator and remove the lamp cover.
6. Install or replace the lamp so that your bare hands directly doesn't touch the lamp.
7. Attach the lamp cover securely and tighten the screws. Make sure that the cover is fixed in place and will not come off when shaken by hand.
8. Re-install the unit to the attachment carefully and connect the cable to the power supply unit.
9. Turn on the power supply unit .

# SPECIFICATIONS

## 1. Installation Conditions

### 1) Operating Environmental Conditions

- Temperature : 10°C to 30°C
- Humidity : 30% to 85%RH, non-condensing
- Altitude : 2000m Max
- Pollution : Degree 2
- Installation : Category II

### 2) Storing Environmental Conditions

- Temperature : -20°C to +60°C
- Humidity : 90%RH max, non-condensing

## 2. Power Source

### 1) AC Power Source (Power supply unit)

- Input : AC100-240V, 50/60Hz, 3A \*Voltage fluctuation:  $\pm 10\%$
- Output: DC12V, 8.4A
- Protection Class: Class I

### 2) Power Supply Cords

- For AC100-120V area

UL Listed, detachable power cord set, 3 conductor grounding Type SVT, No. 18 AWG , 3 m long maximum, rated at AC125V minimum.

- For AC220-240V area

Approved according to EU/EN standards, 3 conductor grounding Type H05VV-F, 3 m long maximum, rated at AC250V minimum.

## 3. Lamp Rating      Fluorescent Lamp    Type UDA100 (100W)

## 4. Conforming Standards

- CE Marking      Low Voltage Directive, 2006/95/EC      EN 61010-1:2010
- EMC Directive, 2004/108/EC              EN 61326-1:2006
- RoHS Directive, 2011/65/EU                EN 50581: 2012

- FCC 15B Class A and Canada EMI regulation(ICES-003) satisfied

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Get appareil numerique de la Class A respecte toutes les exigences du Reglement sur le materiel brouilleur du Canada.