

Instruction Manual

MultiSpex Illumination System PF5-75T



Thank you for purchasing our NK product.

Read this instruction manual carefully for proper operation of the product.

Keep this manual for your reference.

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Keep the instruction manual at an easily accessible location for users.

Our product and service information is available at <http://www.nihonika.co.jp>

This manual is based on the standard specifications and may be slightly different from a special model.

1. Safety Precautions

- Please read the following safety precautions carefully for proper use of the product.
 - These precautions are intended to ensure the proper and safe operation of the product as well as to protect operators and surrounding people from harms or damages.
 - Please keep this instruction manual at easily accessible location for users.
 - If the product is transferred or lent to someone else, please attach this instruction manual to a visible location so that the new user knows how to use the product safely and properly.
- The following signs are used to indicate the degree of harms or damages that may result from neglecting the given instructions and using the product incorrectly.

	WARNING: Improper handling of the product may result in death or serious injury to human.
	CAUTION: Improper handling may cause an injury of a human or damage properties.

- Instructions are classified and explained using the following pictograms. These pictograms are just examples.

	Indicates a “REMINDER” to pay attention.
	Indicates a “PROHIBITED” matter.
	Indicates a “MANDATORY” matter that must be followed.

General information of the product also included.

WARNING

-  Ground the product (class D grounding with the ground resistance of 100 Ω or less). Do not connect the earthing wire to gas, water pipes, lightning rods, or telephone earthing wires. Insufficient earthing could cause accidents or electric shocks.
-  Use a dedicated power outlet and do not use extension cords or overloaded power strips. Doing so may cause overheating or fire.
-  Do not install the product in outdoor locations, in areas where water may easily splash, or in humid locations. Doing so may cause electrical leakage, electric shock, or device failure.
-  Do not install the product in places where there is a risk of leaking flammable gases such as city gas, propane gas, or gasoline. It may ignite at the electrical contact and cause a fire.
-  Please insert the power plug all the way in so that it is secure. If the connection is incomplete, the heat generated by the faulty plug connection may cause a fire or electric shock.



Do not touch electrical components such as power plugs with wet hands.
This may cause an electric shock.



Do not spray water directly on the product or wash it with water.
This may cause poor electrical insulation,



If the existing ground-fault circuit breaker operates, makes sure to inspect and repair the product before restoring power. Continuing to operate the machine in the abnormal state may result in electric shock or fire.



Do not use the product near volatile or flammable chemicals.
This may cause fire or explosion.



Do not use flammable spray near the product.
It may ignite at the electrical contact and cause a fire.



If there is any abnormality or malfunction, turn off the switch and unplug the power cord.
Continuing to operate the machine in this state may result in electric shock or fire.



Please do not disassemble, repair or modify the product unless qualified repair technician. If the product is not properly maintained, it may malfunction, resulting in injury, electric shock or fire.

CAUTION



Please install the power supply unit on a horizontal, stable surface.
Installing it on an unstable surface may cause falling or dropping of the unit or noise and vibration.



Please make sure to use the product with a specified power supply and voltage.
Different voltage may cause electric shock, smoke, or fire.



Do not place any item or container with water on top of the product.
It may fall to cause an injury or spilled water may deteriorate insulation of the electrical components and cause electrical leakage or electric shock.



Do not apply excessive force to the lighting unit.
This may cause damage



If the product will not be used for a long time, please unplug the power cord.
Dust buildup can cause overheating and fire.



Before inspecting or cleaning the product, make sure to unplug the power cord to prevent electric shock, injury from the fan, or burns.



When unplugging the power supply, always hold the plug and pull it out.
Pulling on the cord may break the cord, resulting in overheating or fire.



Please do not stand on the product.
This may cause a malfunction.



In the case of thunder, please unplug the power cord.
Lightning can damage equipment, cause electric shocks, and start fires.



Do not turn the product on or off by plugging or unplugging the power cord.
This may cause electric shock or a short circuit.

2. Before Use

2-1 Installation

Location

Well-ventilation

Using the product in an enclosed space can cause heat to build up, which may interfere with the cooling performance of the installation environment.

If the temperature rises, measures such as exhaust ventilation may be necessary.

Please ensure that there is at least 10 cm of space around the product.

Please allow space around the product for maintenance.

Please install the product in a location where it will not be exposed to direct sunlight and where the ambient temperature will not exceed 40°C.

Depending on the conditions of use, the product may not perform as specified or the parts used may wear out prematurely.

Avoid humidity and heat

Do not install the product in places where water may easily splash on or in places exposed to direct sunlight.

Do not install the product near heat-generating appliances.

Do not install the product in places with a lot of dust or corrosive gases.

Use the product in a humidity environment of 40 to 85% RH without condensation.

A sturdy, level surface

Please install the product on a sturdy, flat surface.

An unstable installation can cause vibration and malfunctions.

Please make sure there are no foreign objects under the product.

Avoid noise

Do not install the product near radio, TV or infrared remote-control devices.

There may be noise interference or the product may not operate properly.

Connecting to power source

Check the values on the product rating nameplate and connect the power supply cable to a dedicated 1φ 100V power outlet.

If the power supply capacity is insufficient, the building circuit breaker may trip or the product may not operate properly.

Never connect the product to LED lighting or power supply units made by other manufacturers. This may cause a malfunction.

Notes on installing the lighting unit and power supply unit

Connect the power supply unit connector and the lighting unit connector securely.

If the wires seem long after connecting, please organize them so that they do not get caught while in use.

When removing the connector, turn the connector ring to the left and pull it straight out.

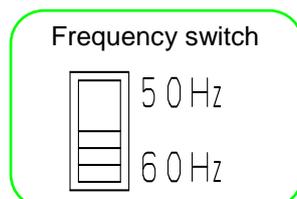
Do not twist the connector forcibly or pull it by the wires.

Frequency switch

Lighting timer has a frequency switching section.

Please make sure that it is set to the designated power supply frequency for the area of use.

Wrong power supply frequency setting may cause the timer to be out of sync.



To change the setting,
use a flat-bladed screwdriver or similar tool.

2-2 Precautions for Use

□ LED lighting



CAUTION

LED light emittance is very strong.
Do not directly look at it when it is on since it may have a negative effect on eyes.

The LED lighting will generate heat while it is lit. Therefore, depending on the lighting and dimming conditions, the ambient temperature may be affected. When embedding LED lighting to the product or installing the product in a small room, please perform a trial run in advance to check that it is operating correctly before use. Heat is constantly dissipated by the fan. Do not cover the product with a cloth or block the air intake/exhaust vents. Use of the product in high temperature may significantly shorten the life of LED.

□ Be alert for abnormal sounds and vibrations

- Please pay attention to any abnormal noises or vibrations during operation.

In the case of any abnormalities, turn off the power and contact the dealer or our sales office to request repairs.

3. Operation Guide



WARNING

Do not touch electrical components such as switches with wet hands.
This may cause an electric shock.



CAUTION

Do not turn the product on or off by plugging or unplugging the power cord.
This may cause electric shock or a short circuit.

□ Power Unit

○ Lighting switch

When the switch is turned on, the LED lamps of each color will turn on and off according to the timer.
When the lamps are on, the switch will also light up.

○ Lighting timer

The lighting unit turns on and off when the timer is turned on and off.

○ Dimmer (5 wavelengths)

Brightness of each color can be adjusted between 20 and 100%

Set value display: Displays the brightness of the lamp

Set color display: Displays selected color with a single character.

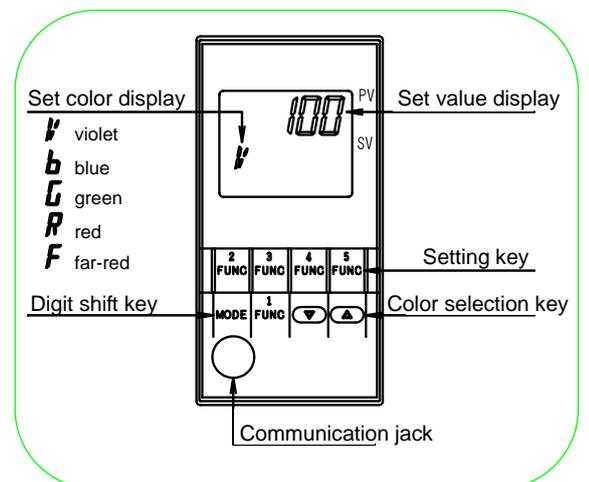
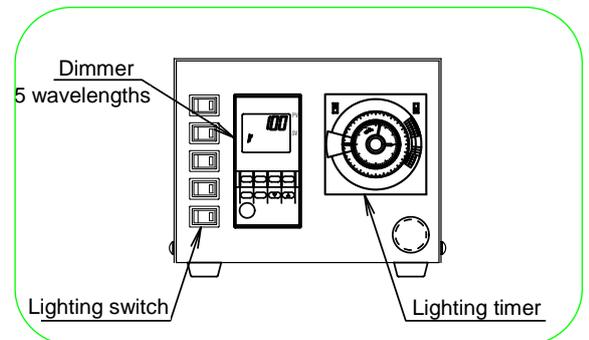
Setting key: Changes the setting value of the selected color.

Color selection key: Selects the color to display.

(1) violet, (2) blue, (3) green, (4) red, and (5) far-red

Digit shift key: Moves the digit of the setting value.

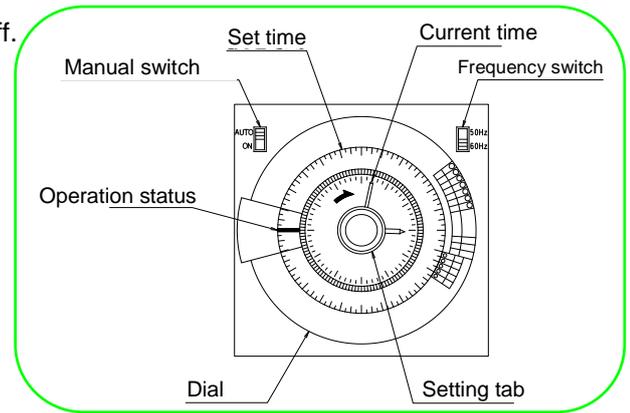
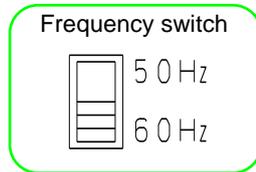
e.g.) To change the hundreds place, press the digit shift key to move the blinking digit to the third place.



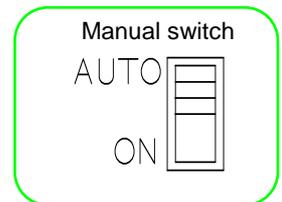
○ Lighting timer

The timer can be turned on and off to turn the lights on and off.

- Makes sure that the frequency is correct for the area. When changing the frequency, please use a slotted screwdriver or similar tool to turn the frequency switch.



- When setting the current time, be sure to turn the setting tab on the central clock section in the direction of the arrow (to the right).
- Forcing the tab to turn in the opposite direction or turning the dial to adjust the time may cause a malfunction.
- After setting, be sure to close the transparent cover. This will prevent malfunctions due to accidental contact.
- To set the time, lay the setting pin(s) of the desired time inward of the dial (the red ring will appear around the dial), and the timer will be turned on and the light will come on.
- If the setting pins are laid inwards continuously, the same state will continue for 15 minutes multiplied by the number of setting pins.
 - *Please lay the setting pins inwards all the way until click action.
 - *If the setting pins are laid outward (the red color on the outer edge of the dial is hidden), the timer will be turned off at that time and the light will go out.
- When the manual switch is set to "AUTO", it will turn on and off according to the time set with the setting pins
- When the manual switch is set to "ON", the lamp will light up regardless of the time set with the setting pins.
- Please be sure to close the transparent cover after setting. This will prevent malfunctions due to accidental contact.



4. Maintenance and Inspection

Regular inspections and cleaning are necessary to ensure the safe use and longer life of the product as well as smooth operation. Please be sure to carry out daily maintenance, inspections and cleaning.

- It is recommended to conduct inspections and cleaning once or twice a month.
- Please carry out an inspection of the entire product at least once a year.

□ Power unit (Steel plate section)

Never use gasoline, thinner, organic solvents, or strong acid detergents.

Brush or hard cloth may scratch the surface, so please use a soft cloth with water or diluted neutral detergent, and wipe it clean so that no detergent residue remains.

□ LED lighting

When replacing or cleaning the LED, turn off the power and wait a while before doing so.

Touching the lamp or the area around the lamp while it is on or immediately after it has been turned off may cause burns.

Do not subject the lamp to strong impacts or scratches.

Dispose of used lamps as industrial waste in accordance with the prescribed disposal procedures.

If LED is broken, the fragments may scatter and cause injury.

5. Before Asking for Repair



Before requesting repairs, please check the following first.

Troubles	Causes
Does not start operation	<ul style="list-style-type: none"> • Circuit breaker for the building may be off. • Power supply voltage may not be within 100V \pm5%. • Cable may not be connected correctly.
No lighting	<ul style="list-style-type: none"> • Lighting unit or power supply unit may not be connected correctly. • Lighting setting (lighting timer) may not be "ON." • Lighting switch may not be "ON." • LED lamp may be at the end of its useful life. • Lighting timer setting may be incorrect due to power outage, etc.

○ When asking for a repair

If there is a problem, stop using the product, unplug the power cord from the outlet, and contact the store where you purchased the product or our sales office

When contacting us, please clearly indicate the following items

1. Product name
2. Model
3. Serial number
4. Date of purchase
5. Trouble (Please specify.)

6. Specifications

○ Lighting unit

Description	5-LED lighting unit
Model	PF5-75T
LED	Purple (wavelength 410-420nm, power consumption 15W, 144 pcs.) Blue (wavelength 435-445nm, power consumption 15W, 140 pcs.) Green (wavelength 515-525nm, power consumption 15W, 140 pcs.) Red (wavelength 655-665nm, power consumption 15W, 144 pcs.) Far-red (wavelength 725-735nm, power consumption 15W, 144 pcs.)
Materials	Main body: Aluminum Illumination surface: Polycarbonate Hanging hardware: Stainless steel

○ Power unit

Description	Power source for one 5-LED lighting unit	Power source for two 5-LED lighting units
Model	PF5-1BB	PF5-2BB
Setting switch	ON/OFF switching using a 24-hour timer	
Dimmer	Digital dimming system using PWM * 20% to 100% for each color (each of 5 wavelengths)	
Materials	Main body: steel plate, Finish: baked-on resin coating	
Power source	1 ϕ 100V 50/60Hz 2A	1 ϕ 100V 50/60Hz 4A

* Pulse-Width Modulation (see https://en.wikipedia.org/wiki/Pulse-width_modulation)