



Broadband Excitation Illuminator for Fluorescence Microscope

Hyper E640 Users Manual



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1. Product Introduction :

The new generation Hyper E640 increases LED light source intensity more effectively.

The Hyper E640 illuminator provides broad-spectrum LED lighting with an output spectrum covering a range of 350 nm to 650 nm, capable of meeting the most commonly used fluorescence in experimental research, such as DAPI, GFP/FITC, mCherry/Texas Red, Cy5, etc. It can help you achieve energy-saving work effortlessly.

The Hyper E640 illuminator comes with a comprehensive microscope adapter and is compatible with most existing microscopes or liquid light guides with a diameter of 3.0mm. The on/off switch and light intensity adjustment of the light source output are controlled by the switch on the control box and the dimming knob.

In addition, LED lights have the characteristic of long life, so you don't have to worry about replacing light bulbs. The YODN Hyper E640 is the best choice for fluorescence microscopy research.

2. Cautions and Warnings:

Simple operation ensures the normal operation of the lightbox.

Safety instructions:

Before operating the Hyper E640 illuminator, please read and follow all the safety instructions provided. Failure to follow safety instructions may result in fire, electric shock, personal injury, equipment damage, or destruction. Please keep all safety instructions.

Safety definitions:

Danger: Statement indicating dangerous situations, practices that may result in death, serious injury, or equipment damage.

Warning: Statement indicating situations or practices that may result in personal injury.

Caution: Statement indicating situations or practices that may result in equipment damage.

Safety items:

Warning: Do not use unapproved power sources. Please use the YODN-provided Hyper E640 illuminator dedicated power source. The range of external voltage input is 100~240VAC, voltage output is 12VDC, and the maximum current output is 8.5A.

Danger: Do not stare directly at UV intense light. The illuminator's output light source includes UV light that may cause harm to the eyes or skin. Do not stare at the output light source. To avoid exposure of the eyes and skin to the beam, it is essential to wear protective goggles and protective clothing. The illuminator's brightness is higher than that of most commercial lighting devices and is mainly used for coupling to microscopes or other biological analytical instruments.

Caution: Do not open the lightbox case or modify external devices in any way. Opening the illuminator's case will void the product warranty, as the illuminator's external parts do not require maintenance or replacement.

Caution: Do not place liquid containers on the light source box. Overflowing liquids may damage the light source box.

Caution: Do not drop or apply sudden external force to the light source box. Vibrations caused by falling onto a hard surface, external impact, or collision may damage or misalign the illuminator's internal components, causing functional failure.

Note: Liquid light guides should not be subjected to collision or impact, and the minimum bending radius should be greater than the specification (80mm or 3.2 inches). Before outputting or installing the light source, please make sure to remove the protective covers on both sides of the light guide. Failure to comply with the above precautions will cause damage to the light guide, resulting in a decrease or failure of the light source output. The liquid light guide is not covered by the warranty.

Note: The Hyper E640 lighting fixture uses a fan air cooling system. When using it, please place the lighting fixture on a stable surface, and make sure that there is more than 10cm of space for the ventilation holes on both sides of the main unit. Avoid blocking or hindering the air intake and exhaust on the housing, which will affect the normal operation of the lighting fixture's cooling system. When the cooling system is blocked or hindered, the device will operate at high temperatures, which will shorten the lifespan or cause premature failure of the lighting fixture.

Please regularly use a slightly damp cloth to clean the external casing of the box under power-off state, and avoid cleaning the optical surface and lens. If it is necessary to clean the optical components, only use an optical cloth to gently wipe them.

Disclaimer: YODN is not responsible for any injuries or product damage caused by users who unintentionally ignore all safety precautions and warning notices regarding the use and operation of the lighting fixture.

RISK GROUP 3

WARNING IR emitted from this product. Do not look at operating lamp
CAUTION UV emitted from this product . Eye or skin irritation may result from exposure. Use appropriate shielding.

3. Illuminator System Accessories :



3.1 DC Power Supply : GST160A12-R7B (YODN P/N : H006-0114311)。

3.2 AC Power Cord (optional according to region) :

- (1)H006-0067312 - Taiwan
- (2)H006-0067311 - North America
- (3)H006-0068311 - Europe
- (4)H006-0069311 - U.K.
- (5)H006-0070311 - West Germany
- (6)H006-0070311 - South Korea
- (7)H006-0071312 - China/Australia
- (8)H006-0372311 - Japan

3.2 Adaptor (Optional according to the microscope model) :

Microscope Model	P/N
Adaptor for Nikon	H600-0024310
Adaptor for Nikon-T	H600-0025310
Adaptor for Zeiss	H600-0026310
Adaptor for Leica	H600-0027310
Adaptor for Motic	H600-0028310
Adaptor for Evident (Olympus)	H600-0029310

3.3-Liquid light guide : Diameter (effective inner diameter) φ 3 mm

Description	P/N
Φ 3mm*1500mm LLG, Series380, STD	H600-0009311
Φ 3mm*1800mm LLG, Series380, STD	H600-0010311
Φ 3mm*3000mm LLG, Series380, STD	H600-0011311
LLG Adapter	H600-0030310

3.4 Collimator :

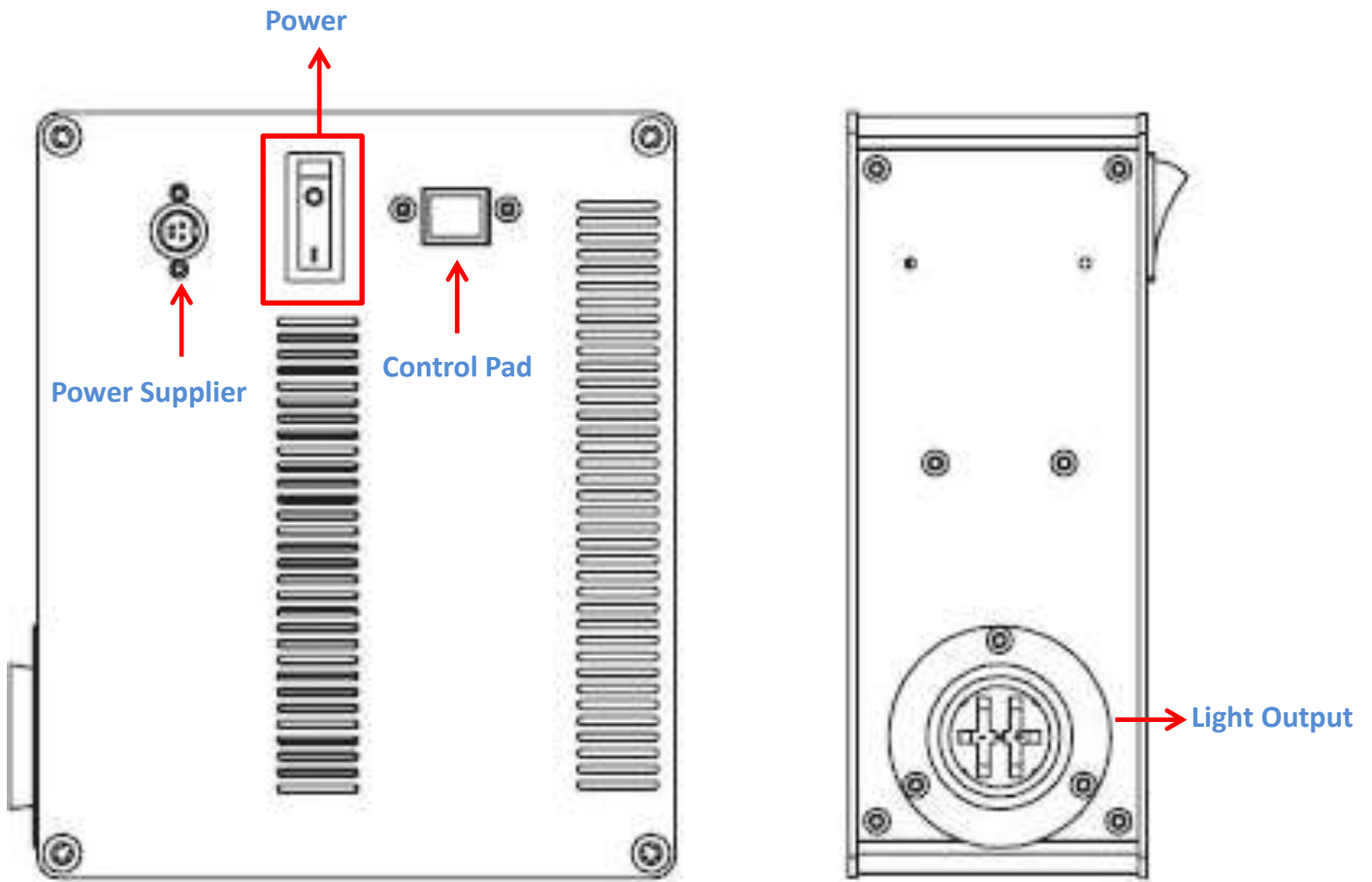
Description	P/N
Collimator for Evident (Olympus) (Φ 3LLG)	H600-0015311
Collimator for Leica (Φ 3LLG)	H600-0016311
Collimator for Zeiss (Φ 3LLG)	H600-0017311
Collimator for Nikon (Φ 3LLG)	H600-0018311
Collimator for Motic (Φ 3LLG)	H600-0020310
Collimator for Nikon-T(Φ 3LLG)	H600-0022310

3.6 Fluorescent light path adapter accessories :

Description	P/N
X-T100-CP	H600-A033310
X-T100-LLG	H600-A032310
X-L200 C	H600-A043310

4. Hyper E640 Illuminator System Accessories :

4.1 Illuminator Function Introduction:



4.2 Controller Function Introduction :



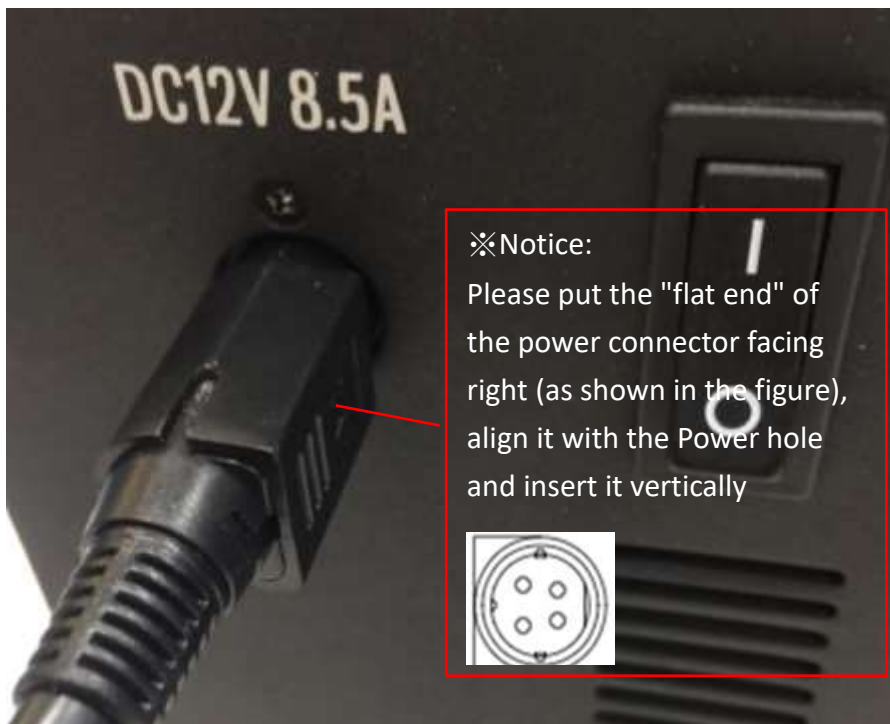
(When idle > 10 minutes, the screen goes to sleep)

5.Installation and Setup:

5.1 Carefully remove the components from the cardboard box.

5.2 Connect the control box cable or USB to the computer, then connect the power cord to one end of the mainframe socket and the other end to a power outlet. After turning on the power, the blue light of the power supply will stay on, and then press the power button to start up.

※ Please make sure that the DC power supply must be the one provided with the product, otherwise it may damage the light source and void the warranty.



5.3 You can choose to connect either a "microscope" or "liquid light guide" to the Hyper E640 mainframe:

5.3.1 Connecting the microscope:

- a. Loosen the locking screw on the side of the "lens adapter ring" and fix the adapter ring to the light output port of the Hyper E640 mainframe.
- b. Connect the light source end of the Hyper E640 mainframe's lens to the light receiving port of your microscope's light source, ensuring that it is secure and does not loosen.

※ Please purchase a compatible lens adapter ring according to the brand of your microscope and make sure that the mainframe is level with the microscope during installation.

※ If you are connecting an Olympus ix73 / ix83 microscope, please contact an authorized

YODN agent to purchase the following adapter accessories:

(1) H600-A033310 X-T100-CP

(2) H600-A043310 X-L200C

5.4 Connecting the liquid light guide:

- a. Fix the light guide adapter to the light source lens port of the Hyper E640 mainframe.
- b. Fix the collimator to the light receiving port of your microscope.
- c. Remove the protective cover from both ends of the light guide, insert one end into the light guide adapter and the other end into the collimator.
- d. After inserting the light guide to the bottom position, gently tighten the screw by hand until the light guide is securely fixed. Over-tightening may cause damage to the light guide.

6. Controller Operating instructions :

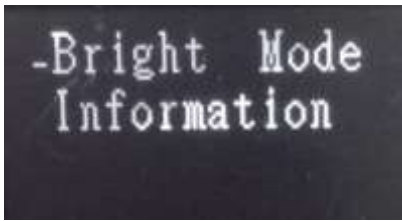
6.1.1 Startup page



LOGO

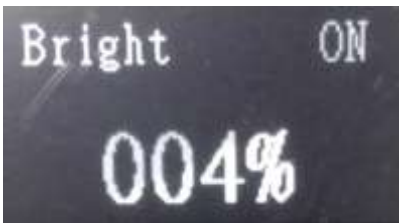
Firmware version

6.1.2 Main menu



Bright Mode Information

6. 1.3 Submenu - Bright Mode



LED On/Off Status

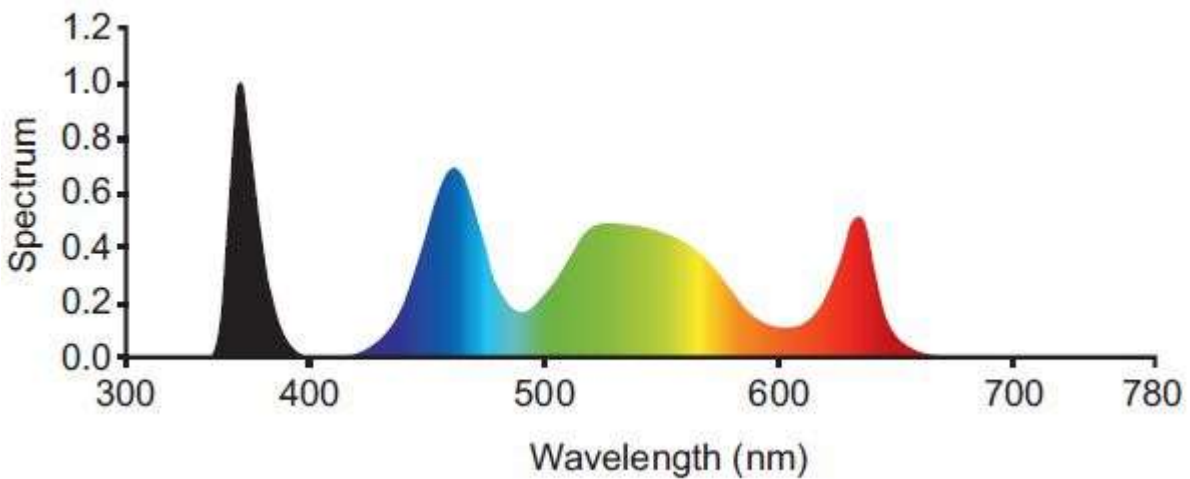
energy sync adjustment : 0~100%

6. 1.4 Submenu -Information



Temperature
LED Hours Used
Firmware version

7. Spectral output:



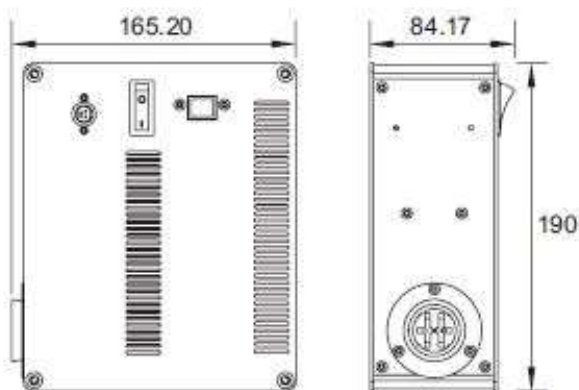
8.Product specifications:

8.1 Relevant operating and storage environmental conditions and detailed specifications:

Product Specification		
1	Wavelength range	350~650 nm
2	LED peaks/FWH	365/20 nm, 460/40 nm, 560/80 nm, 630/20 nm (Optional: 405/20 nm, 730/20 nm)*
3	External power supply	Universal input 100-240VAC, 50/60 H
4	Power consumptio	75W
5	LED on/off respons	1 ms
6	LED expected life	25000 hours
7	Control Pad	ON/OFF; LED intensity control 10%-100%
8	Demension (mm)	Illuminator:165*190*84 Control pad:113*80.5*43 Power adapter:72*175*35
9	Weight	Approx. 3.5 Kg (including power supply, control pad)
10	Warranty	Illminator : 24 months
11	Standard configuration	illminator, control pad adaptor (choose one), integrated power supply.
12	Option	1.5M/φ3 mm liquid light guide/ Adaptor, collimators
13	Certifcations	CE(TBA)

*365nm can be changed to 405nm ; 630nm can be changed to 730nm ; made by order.

8.2 Dimensions : (mm)



9. Daily maintenance and troubleshooting:

9.1 Daily maintenance:

Please use a suction device to remove any accumulated dust or lint at the inlet/outlet of the air vents, in order to ensure stable air supply for cooling. In dusty or smoky environments, it is recommended to clean the air inlet/outlet with a suction device at least every six months.

The Hyper E640 lighting fixture does not have any parts or components that can be replaced by customers. Opening the housing of the lighting fixture will void the warranty.

9.2 Troubleshooting:

Basic troubleshooting information is provided depending on the situation of the Hyper E640 lighting fixture. If repair is required, it is recommended to be performed by authorized technicians.

9.2.1 Failure to start:

- a. Make sure the power cord is connected to the power outlet.
- b. Make sure the power cord is connected to the power supply socket.
- c. Make sure the power supply connector is properly connected to the Hyper E640 lighting fixture.
- d. Ensure that the main power of the Hyper E640 lighting fixture is turned on, and the blue light of the power supply is always on.



9.2.2 Low light intensity:

- a. Unscrew the screw on the collimator lens, insert the light guide into the collimator lens, and then secure the light guide with the screw.
- b. Make sure that the collimator lens is a compatible product with the microscope, and securely attach the collimator lens to the microscope.



9.2.3 Failure of control box operation: Please ensure that the control box connector is properly installed and connected to the Hyper E640 lighting fixture.

10. Customer Service:

For technical support related to the product, please call +886-3-5637218, send an email to Sales@yodnlighting.com, or visit the website http://www.yodnlighting.com/contact_info to contact us.

Related information can also be found on the YODN website at <http://www.yodnlighting.com>.



11. Compliance Statement:

Manufacturer: YODN Lighting Corporation, Taiwan.

Address: 6F, No. 1, Creation Rd. II, Science-Based Industrial Park, Hsin-chu City, 30077 Taiwan .

We hereby declare that the Hyper E640 lighting fixture complies with the following regulations and standards:

CE Compliance and RoHS.

12. Warranty:

YODN Lighting provides a 2-year warranty to end-users for the Hyper E640 lighting fixture, starting from the date of shipment from the YODN company. The warranty for peripheral accessories of the lighting fixture does not include liquid light guides.