SCOPELED® G150 SERIES ILLUMINATOR

OPERATION MANUAL

Table Top
Pole Mount

SCOPELED®
illuminating your view

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TABLE OF CONTENTS

PRODUCT OVERVIEW 1
- **ScopeLED® G150 Series Illuminator Overview** 1
- **ScopeLED® G-Series Family Product Feature Matrix** 1
- **Models & Naming Convention** 2
- **Included Hardware & Accessories** 3
- **Safety Instruction** 4

HARDWARE SETUP 5
- **Table Top Model Installation** 5
- **Pole Mount Model Installation** 10
- **Installation Recommendations** 12

MANUAL OPERATION 13
- **Control Panel** 13
- **Basic Operation** 14

TROUBLE SHOOTING 15

SPECIFICATIONS 16
- **Absolute Maximum Ratings** 16
- **Optical Specifications** 16
- **Mechanical Dimensions** 17
- **Mechanical Drawings** 17

PRODUCT OVERVIEW

This product must be installed in accordance with the applicable installation code by a person familiar with the construction and operation of the product and hazards involved.

ScopeLED® G150 Series Illuminator Overview

ScopeLED® G150 Series offers high brightness, tunable color and adjustable intensity in a compact, flexible, and convenient package. Different colored LED chips packed into DiCon's Dense Matrix LED™ Array couple light efficiently into a light guide, illuminating your sample with selectable colors to enhance contrast, protect wavelength sensitive samples, and optimize viewing comfort.

The LEDs do not emit in the UV and IR spectral regions, eliminating the need for special filters. Undesirable light and sample interactions such as photobleaching in fluorescence and unintended curing in photosensitive adhesives can be avoided by selecting a color channel that doesn't interact with the sample.

The G150 Series combines optical power, flexibility, and usability in a compact form and is a great choice for your application.

ScopeLED® G-Series Family Product Feature Matrix

Features	Type	ScopeLED® G-Series		
		G150	G180	G250
Mounting	Table Top	x	x	x
	Pole Mount	x	x	x
Controls	Manual Control	x	x	x
	USB Control		x	
LED Color	Tunable White	x (3 modes)	x (6 modes)	
	RGB		x	
	Single Color	x	x	x

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Models & Naming Convention

The ScopeLED® G150 Series has two different mounting types:

Table Top

Pole Mount

Both the Table Top and Pole Mount Illuminators come in Tunable White or Single Color output types.

Please reference the label at the bottom of the unit to confirm that you are using one of these models. If not, contact the manufacturer for the proper user manual.

Tunable White (G150T-TW or G150P-TW)

The tunable white light illuminator has three preprogrammed selectable CCTs of 3000K, 4300K and 5600K.

Single Color (G150T-5600K or G150P-5600K)

The single color illuminator provides single white color at 5600K only. A customized color model may be available upon special request.

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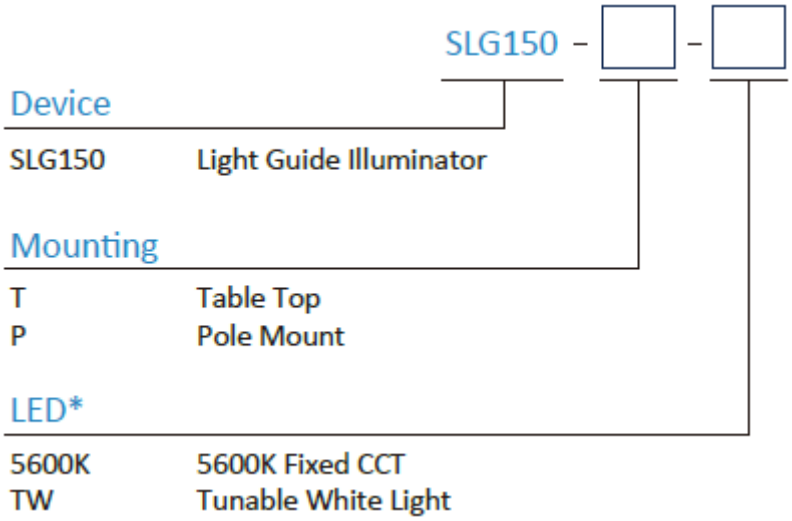
Naming Convention for ScopeLED® G150 Series product



Included Hardware & Accessories

- Illuminator x 1
- Tightening Set Screw x 1
- AC/DC Power Adapter x 1
- AC Power Cord x 1
- Quick Start Guide x 1
- Pole Adapter 40 to 32mm (Optional, PN: SLAG-PA32)
- Pole Adapter 40 to Specify ID (Optional, PN: SLAG-PACU)
- G-Series Support Stand for Table Top Models Using Ring Light Guides (Optional, PN: SLAG-SS)
- G-Series Lead Base for Table Top Models Using Rigid Light Guides (Optional, PN: BASE)
- Rigid Bifurcated Gooseneck Light Guide (Optional, PN: SLAG-BIFR)
- Ring Light Guide (Optional, PN: SLAG-RING)
- Light Guide Adapter (Optional, Custom Design)

Safety Instruction

Warnings

- Never look directly at the light output port.
- Inappropriate usage of ScopeLED® G-Series products could result in eye damage.
- Installation of the product onto readily available microscopes should always be performed according to the written guidelines.

Attention (also see Installation Recommendations & Absolute Maximum Ratings)

- The statements regarding safety of operation of the G-Series will apply only when the product is operated correctly.
- Any installation or attachment of light guide to the G-Series Illuminator should always be performed with power adapter and other cables disconnected.
- When installing or removing a light guide, the G-Series Illuminator ON/OFF switch should always be set to “OFF”.
- The G-Series must not be operated in explosion prone environments. The G-Series products must always be operated with shielded cables.

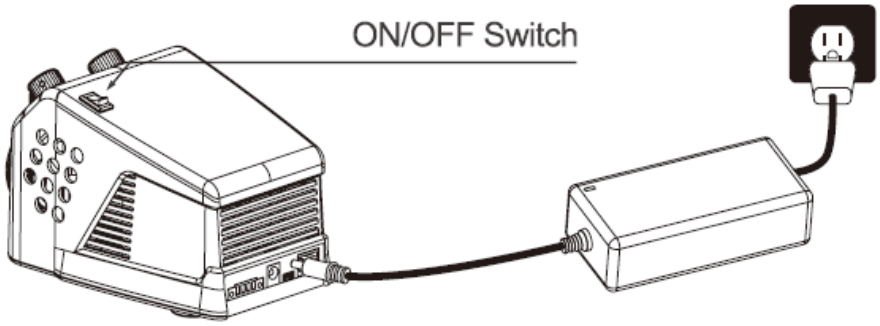
HARDWARE SETUP

Table Top Model Installation

1. Set the G150 Series ON/OFF switch to “OFF”

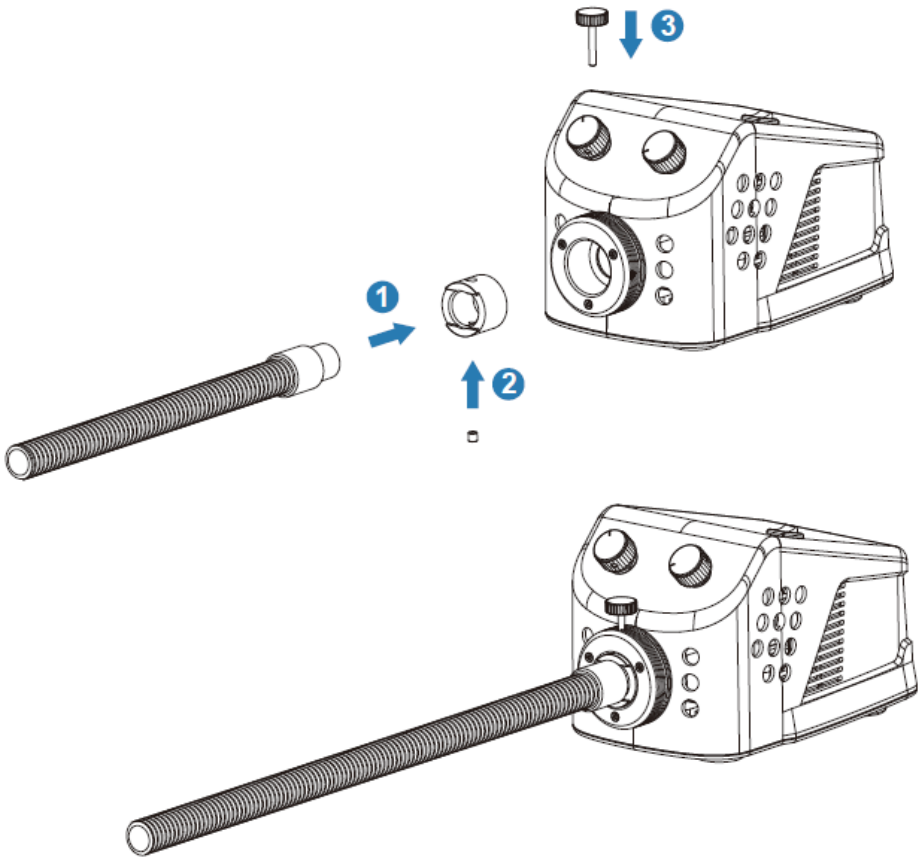
2. Connect the 12V AC/DC power adapter to the illuminator at the DC power port shown on the model images below and then plug the 12V AC/DC power adapter to wall socket

Table Top Model



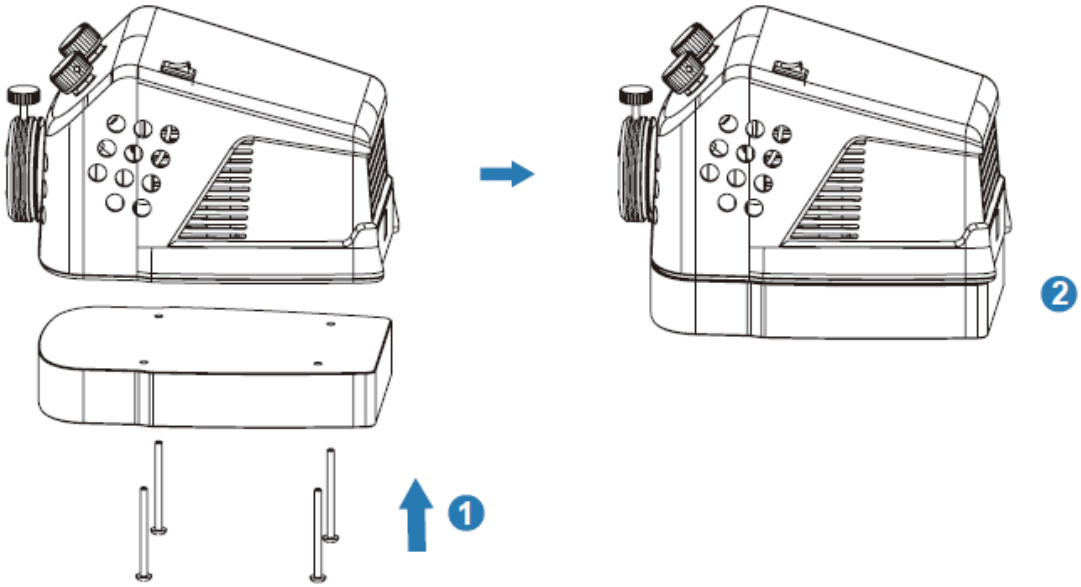
3. Light Guide Installation

Place the illuminator on a desk. Connect the single or bifurcated gooseneck to the light guide adapter, and secure it with the set screw. Insert the gooseneck or ring light into the LED illuminator light output port and secure it with the tightening screw.



4. Lead Base/Support Stand (Optional)
If using a rigid gooseneck light guide with the G150T or G180T table top models, the optional SLAG-BASE lead base is recommended. Remove the four screws on the bottom of the LED illuminator. Then place the base over the bottom lining up the screw holes, and re-insert the screws to attach the base to the bottom of the illuminator.

Lead Base



The optional SLAG-SS support stand may also be used but will not provide as much stability as the lead base. Snap the U-shaped opening of the support stand into the indent ring located behind the LED illuminator light output port. Push down hard to fully seat the stand in the ring. If needed, extend out the foldable arms for additional lateral support.

Support Stand

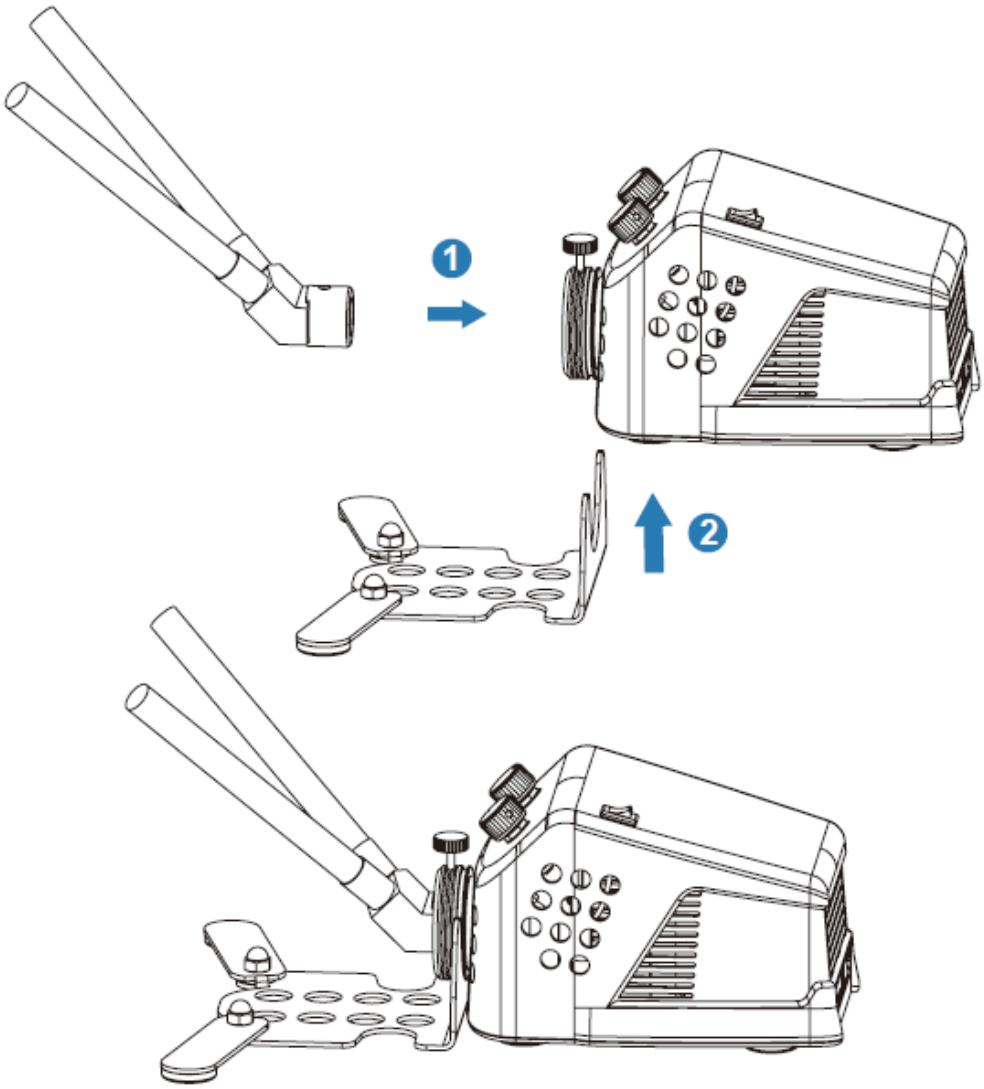
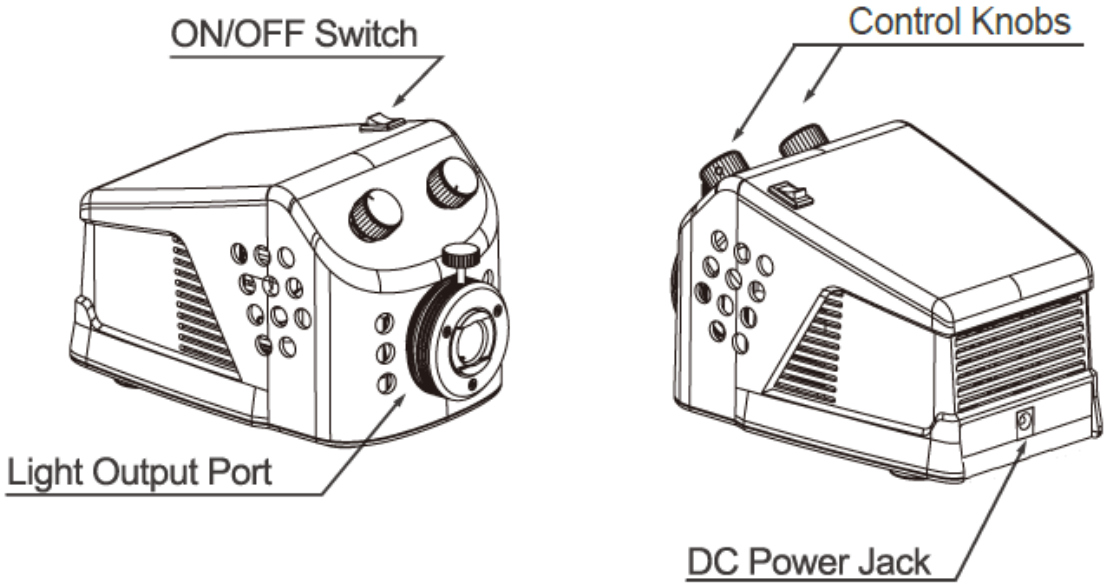


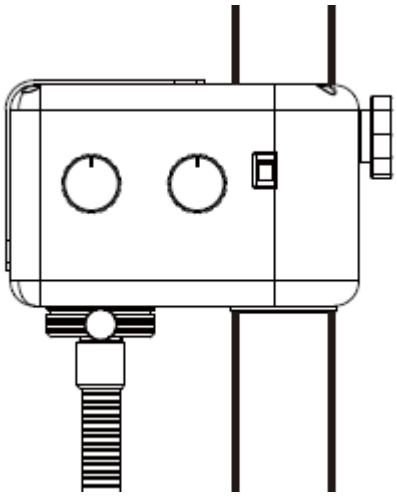
Table Top Controls



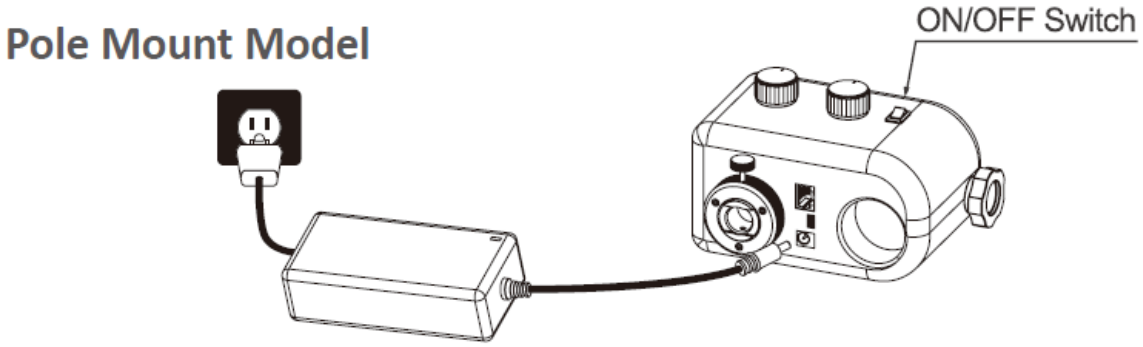
Pole Mount Model Installation

1. Set the G150 Series ON/OFF switch to “OFF”

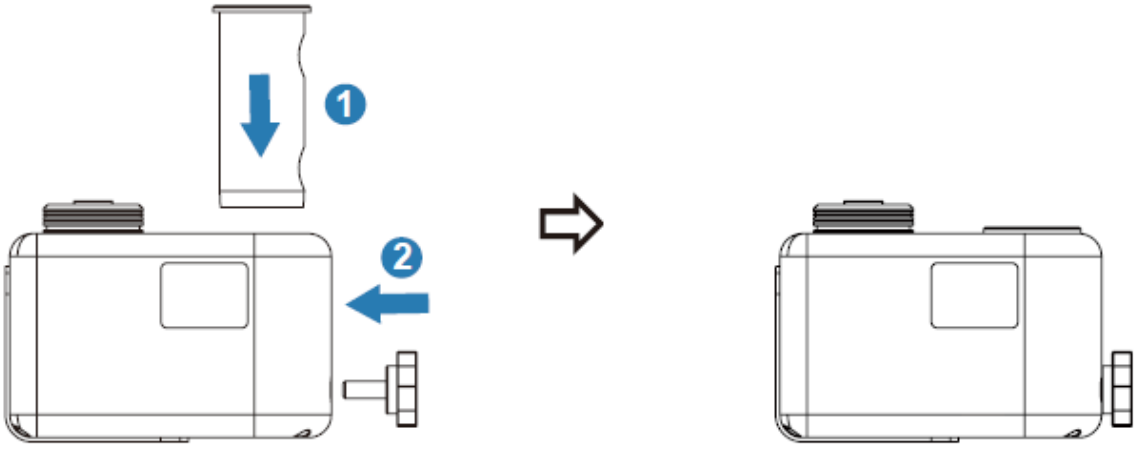
2. Mount the illuminator to the pole.



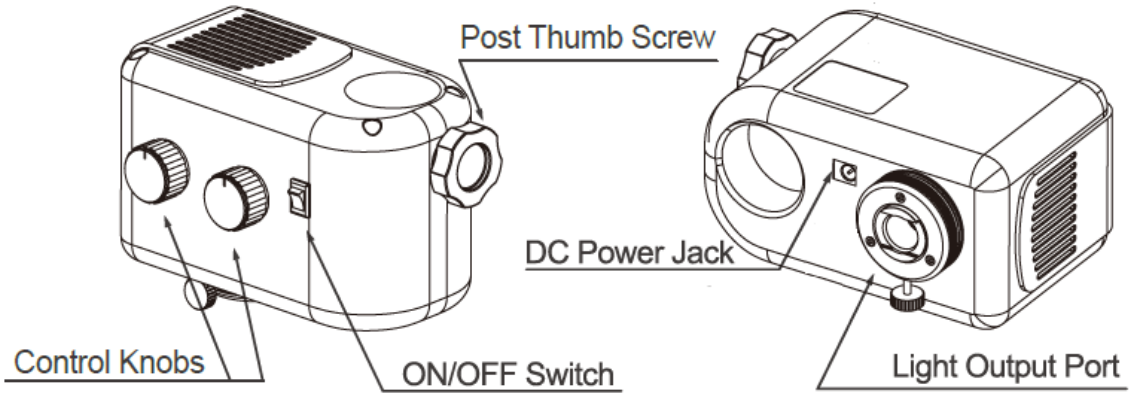
3. Connect the 12V AC/DC power adapter to the illuminator at the DC power port shown on the model images below and then plug the 12V AC/DC power adapter to wall socket



4. Pole Adapter (Optional)
Pole Adapter will be necessary for microscope stand with vertical or horizontal pole diameters less than 40mm. Insert the Pole Adapter into the G150P 40mm opening, be sure the openings on the Pole Adapter are facing the post thumb screw.



Pole Mount Controls



Installation Recommendations

Mounting

The ScopeLED® G150 Series Illuminator is available as a Table Top unit, or as a Pole Mount unit that is intended for mounting on typical microscope stands from 32mm to 40mm in diameter. The following considerations should be made before choosing a mounting option.

Environment

The illuminator is not suited for wet or damp locations. Be sure to protect all electronics from moisture.

Do not mount or locate the unit in an explosive environment near combustible material.

Air Volume

Do not encase or bury the unit in any way that restricts airflow.

Orientation

The post-mount version can be oriented vertically, horizontally, or inverted. Be sure that the mounting method and location is capable of supporting the weight of the illuminator.

Power Adapter

The output connector of the power adapter must be a female barrel connector with dimensions of 2.1mm x 5.5mm for direct compatibility with the G150 Series Illuminator.

Though the fitting between the output connector of the power supply and input connector of the Microscope Illuminator may be snug, the connection will not be able to support the weight of the Illuminator. Do not use the power supply as its own hanging device.

Light Guides

The G150 Series Illuminator is most efficient for light guides in the range of 4 to 25.4 mm outer diameter. The Microscope Illuminator is designed to accept a variety of light guides. Custom size adapters can be made upon request.

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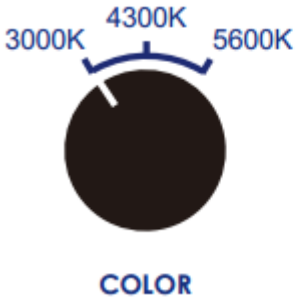
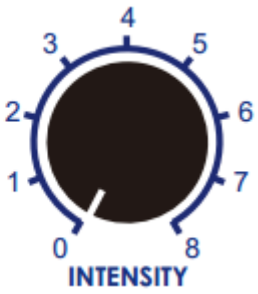
MANUAL OPERATION

Control Panel

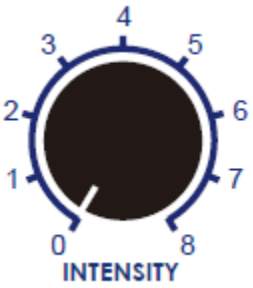
To manually operate the G150 Series Illuminator, two knobs are available for color-tuning (Not applicable for single color model) and intensity levels. The intensity knob is identical for all three light output types of the G150 Series Illuminator (tunable white and single color).

Tunable White (G150T-TW or G150P-TW)





Single Color (G150T-5600K or G150P-5600K)



Preprogrammed Modes

Preprogrammed Modes for Tunable White Output Type (G150T-TW or G150P-TW)

Mode	White Light CCT Value
1	3000 K
2	4300 K
3	5600 K

Preprogrammed Modes for Single Color Output Type (G150T-5600K or G150P-5600K)

Mode	White Light CCT Value
1	5600 K

Basic Operation

1. Follow ***HARDWARE SETUP*** to properly install the G150 Series Illuminator onto your application system.
2. Press the ON/FF switch on the control panel to the “ON” position to turn the illuminator on. The illuminator will operate at the setting indicated by the control knobs.
3. Use the COLOR tuning (color/mode) knob to select the desired preprogrammed colors, white light CCT values or custom settings. These knob settings are also referred to in this manual as preprogrammed modes. (See ***Preprogrammed Modes*** for mode descriptions. Rotating the Color-tuning knob clockwise will progress through these modes in the order listed.)
4. The INTENSITY knob is used to manually adjust the intensity or brightness of the modes without changing its color parameters. Turning the knob fully clockwise results in maximum brightness of the selected mode. Turning the knob fully counter-clockwise results in dimming the selected mode to zero out.

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TROUBLE SHOOTING

Problem	Solution
Illuminator does not turn on	Check that the green light on the power adapter is on and verify that all of the connections to the adapter and the Microscope Illuminator are properly connected.
	Turn the intensity knob to maximum intensity and cycle through the different modes using the color-tuning knob. The color-tuning knob can be in a custom mode position where the custom mode has not been programmed.
Light output only appears red	Make sure that the protective dust cover on the end cap has been removed.
Fan does not turn on	The fan should be on constantly. If the fan fails to engage, turn off the unit immediately and contact the manufacturer.
Illuminator is not emitting all of the colors	Turn the intensity knob to maximum intensity, then cycle through each preset mode using the color-tuning knob. If any of the colors appear unusually dim, please contact the manufacturer.
Illuminator is flickering	Flickering is often a result of the driver not receiving a high enough DC voltage. Verify that the 12V DC output from the power adapter is correct.
	Shorten the line from the power supply to the Microscope Illuminator. Never exceed more than a 15 ft length from the power supply.
	Power cycle the Microscope Illuminator by shutting off the power to the power adapter and restarting.
Illuminator has shut down and is hot	Check to make sure the fan is operating properly and the device is being used within its environmental temperature range (see ***Installation Recommendations***).
	Make sure there is nothing obstructing the airflow to the Microscope Illuminator. It is required that a minimum of eight cubic feet of airspace is provided around the device.

SPECIFICATIONS

Absolute Maximum Ratings

Power Adapter Voltage	10.8V DC to 13.2V DC
Input Current	Max 3.5A
Operating Temp	0ºC to 40ºC (32ºF to 104ºC)
Storage Temp	-20ºC to 75ºC (-4ºF to 167ºF)
Humidity	10% to 90%
CCT Range	3000K to 5600K
Table Top Model Weight	0.771KG (1.7lbs)
Pole Mount Model Weight	0.635KG (1.4lbs)

Optical Specifications

Typical Optical Characteristics - Tunable White Output Type (G150T-TW or G150P-TW)

Typical CCT / Color Settings	8mm Light Guide	
	Radiant Flux (mW)	Luminous Flux (Lm)
3000 K	510	135
4300 K	930	260
5600 K	740	205

Typical Optical Characteristics – Single Color Output Type (G150T-5600K or G150P-5600K)

Typical CCT / Color Settings	8mm Light Guide	
	Radiant Flux (mW)	Luminous Flux (Lm)
5600 K	1280	400

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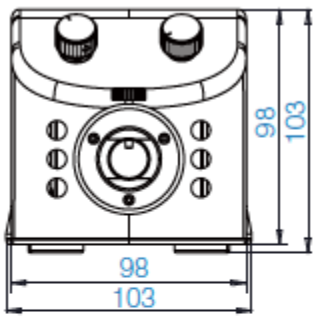
Mechanical Dimensions

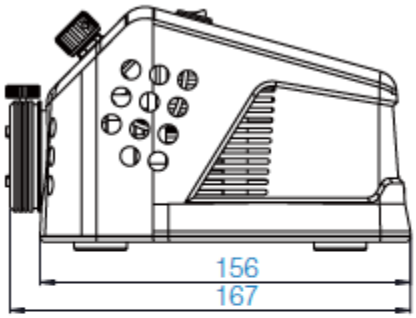
Mechanical Dimensions for all Microscope Illuminator models

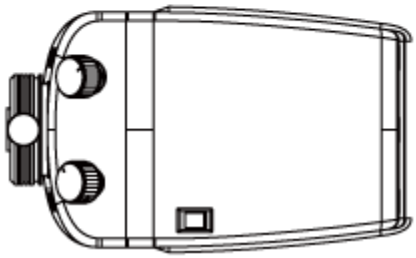
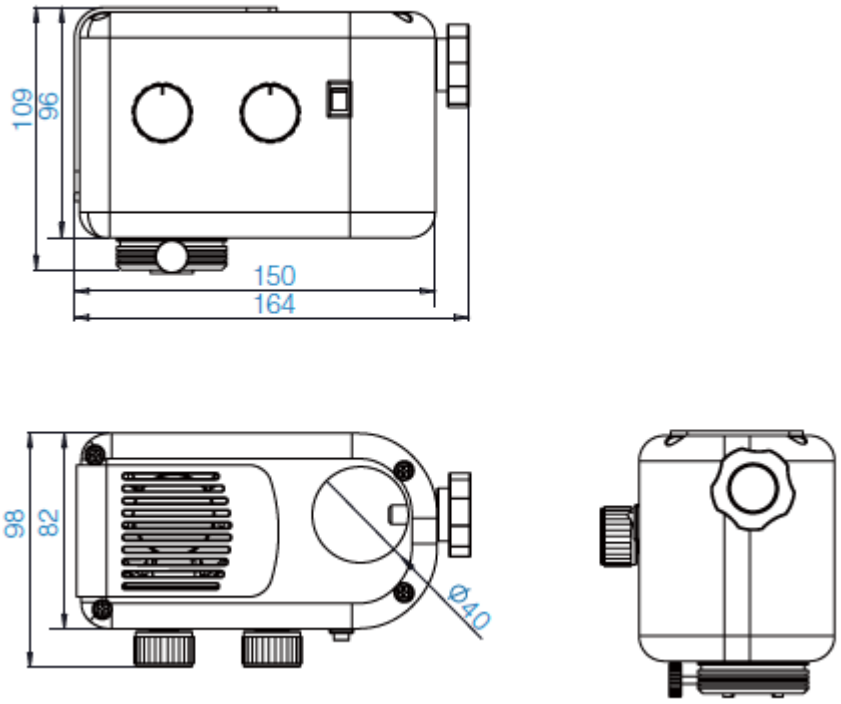
Model	Dimensions (Illuminator only, unit in mm)
Table Top	167 (L) x 103 (W) x 103 (H)
Pole Mount	164 (L) x 98 (W) x 109 (H)

Mechanical Drawings

G150 Table Top Series







G150 Pole Mount Series