

SCOPELED® G250 SERIES ILLUMINATOR

OPERATION MANUAL

Table Top
Pole Mount

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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® G250 Series Illuminator Overview

ScopeLED® G250 Series offers high brightness, single 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 G250 Series combine 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

Models & Naming Convention

The ScopeLED® G250 Series has two different mounting types:

Table Top

Pole Mount

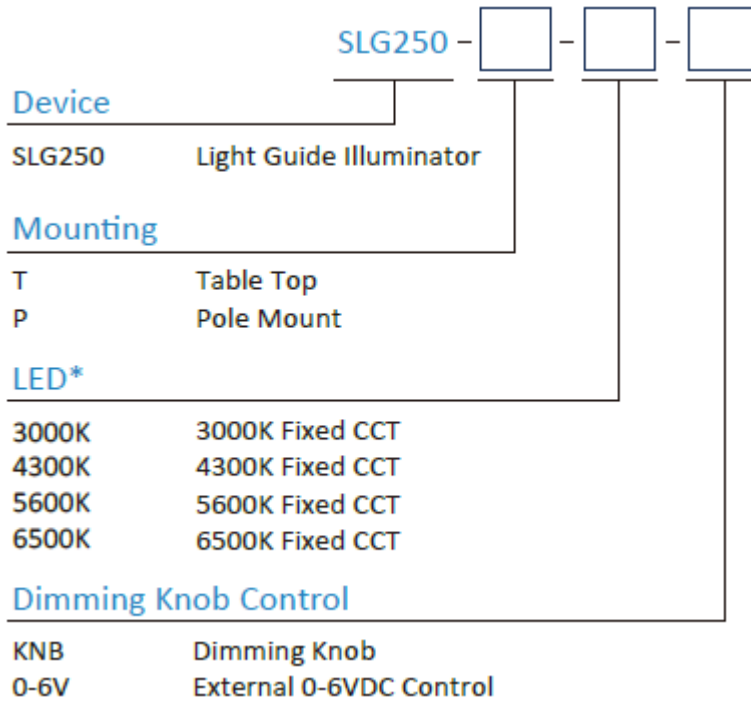
Both the Table Top and Pole Mount illuminators come in single color output types of 3000K, 4300K, 5600K and 6500K.

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.

Single Color (G250T-XXXXK or G250P-XXXXK, XXXX = 3000, 4300, 5600 or 6500)

The single color illuminator provides single white color at 3000K, 4300K, 5600K or 6500K. A customized color model may be available upon special request.

Naming Convention for ScopeLED® G Series family 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
- M3 Screw x4 (G250P Only)
- Stand Adapter x1 (G250P Only)
- Mounting Knob x1 (G250P Only)
- 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.

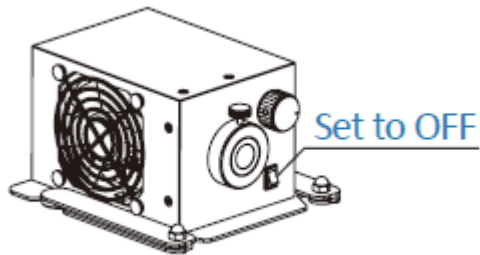
Attention (also see Installation Recommendations & Absolute Maximum Ratings)

- 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.

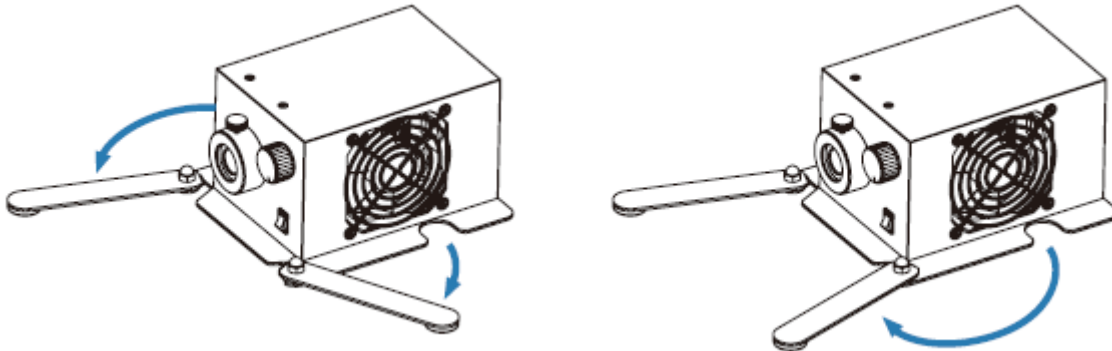
HARDWARE SETUP

Table Top Model Installation

1. Set the G250 Series ON/OFF switch to “OFF”

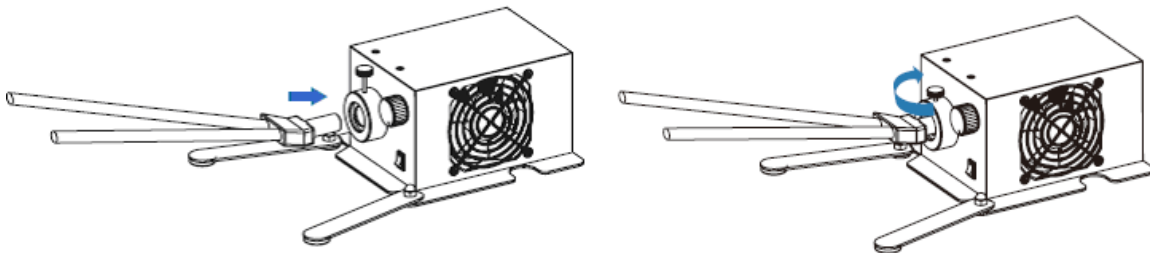


2. If using a rigid self-supporting single or bifurcated light guide with the G250T table top models, the auxiliary stand will support the extended light guide. Pull out both stands and extend them until they reach the end position.



3. Light Guide Installation

Insert a light guide into the Light Output Port until it meets the end. Rotate the Tightening Set Screw clockwise to secure the light guide.



SCOPELED® G250 SERIES ILLUMINATOR

4. Connect the 24V AC/DC Power Adapter to the illuminator at the DC power port shown on the model images below and then plug the 24V AC/DC Power Adapter to wall socket

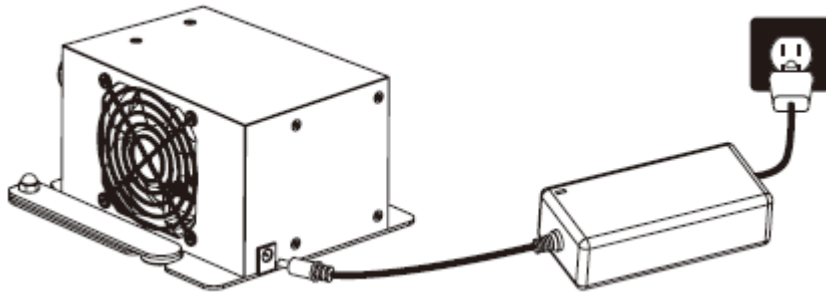
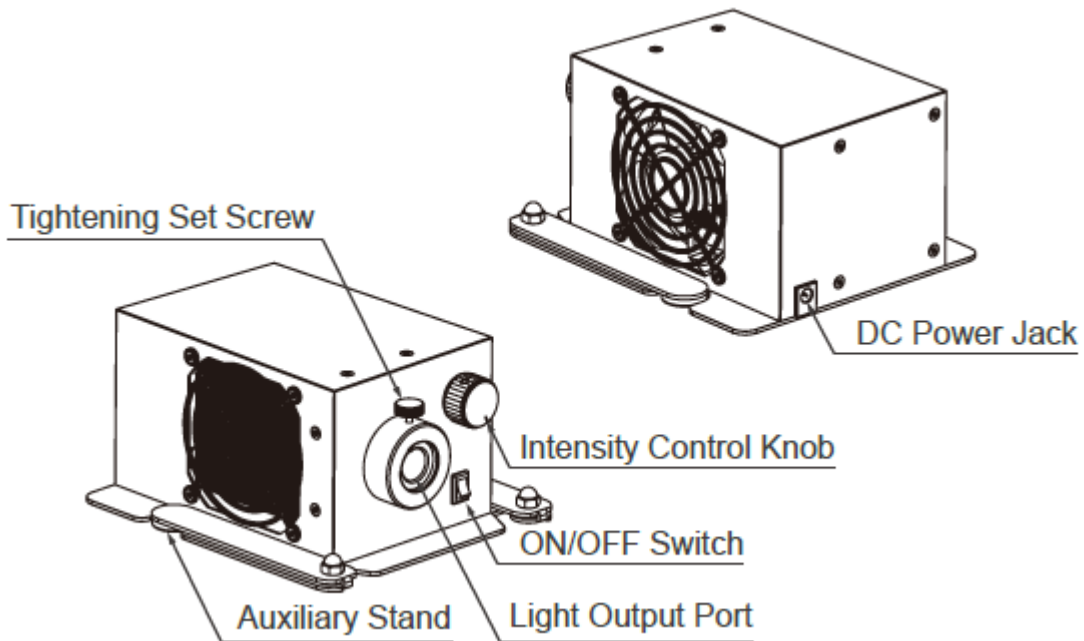
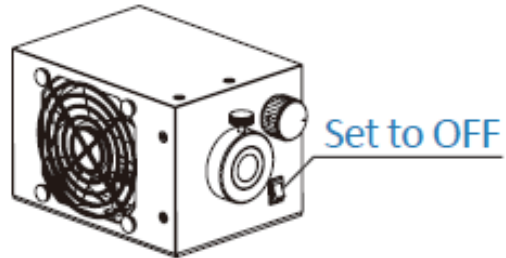


Table Top Controls

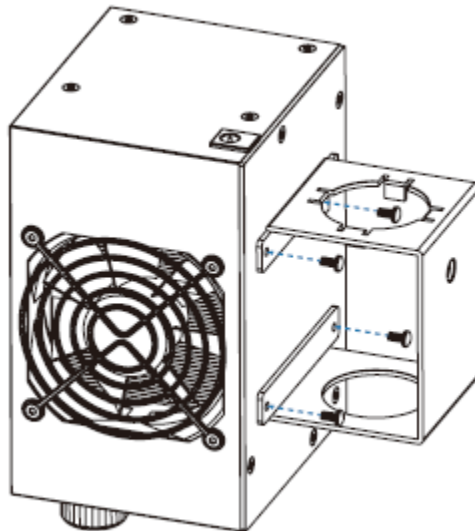


Pole Mount Model Installation

1. Set the G250 Series ON/OFF switch to “OFF”

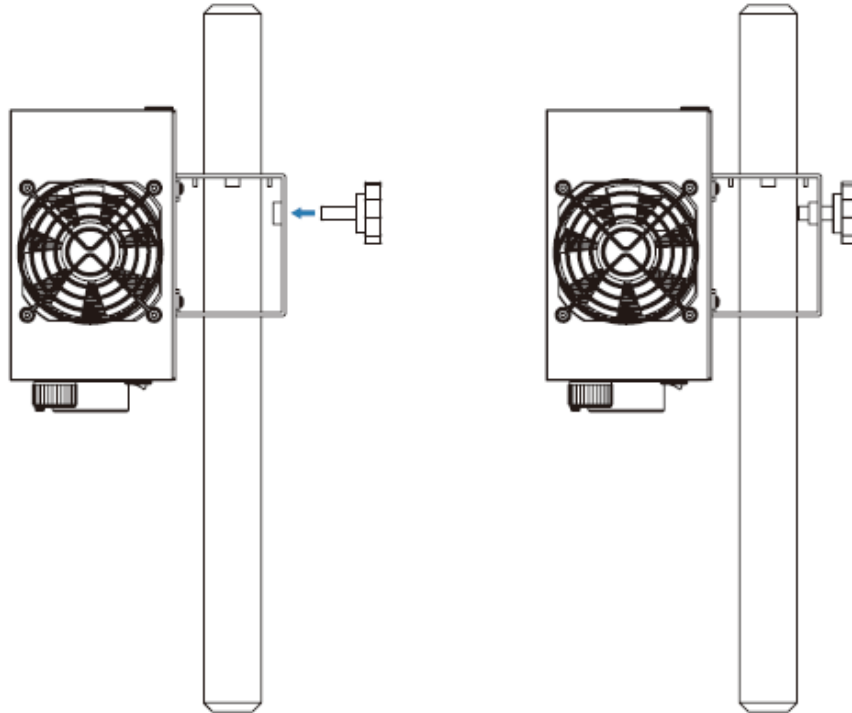


2. Secure Stand Adapter on G250P with four M3 screws.

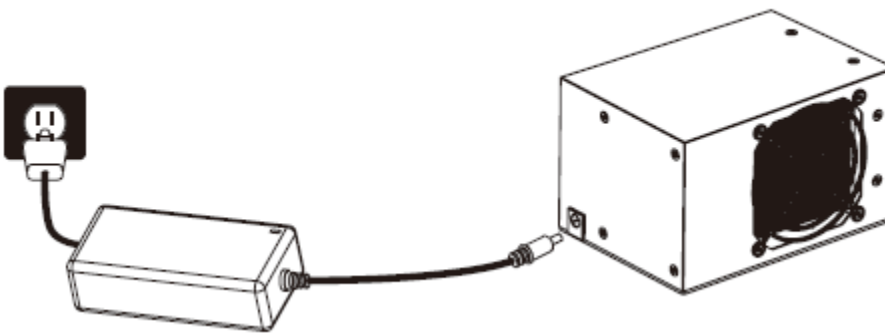


SCOPELED® G250 SERIES ILLUMINATOR

3. Use Mounting Knob to fix G250P through Mounting Hole at the appropriate position on microscope stand.



4. Connect the 24V AC/DC Power Adapter to the illuminator at the DC power port shown on the Model images below and then plug the 24V AC/DC Power Adapter to wall socket stand.

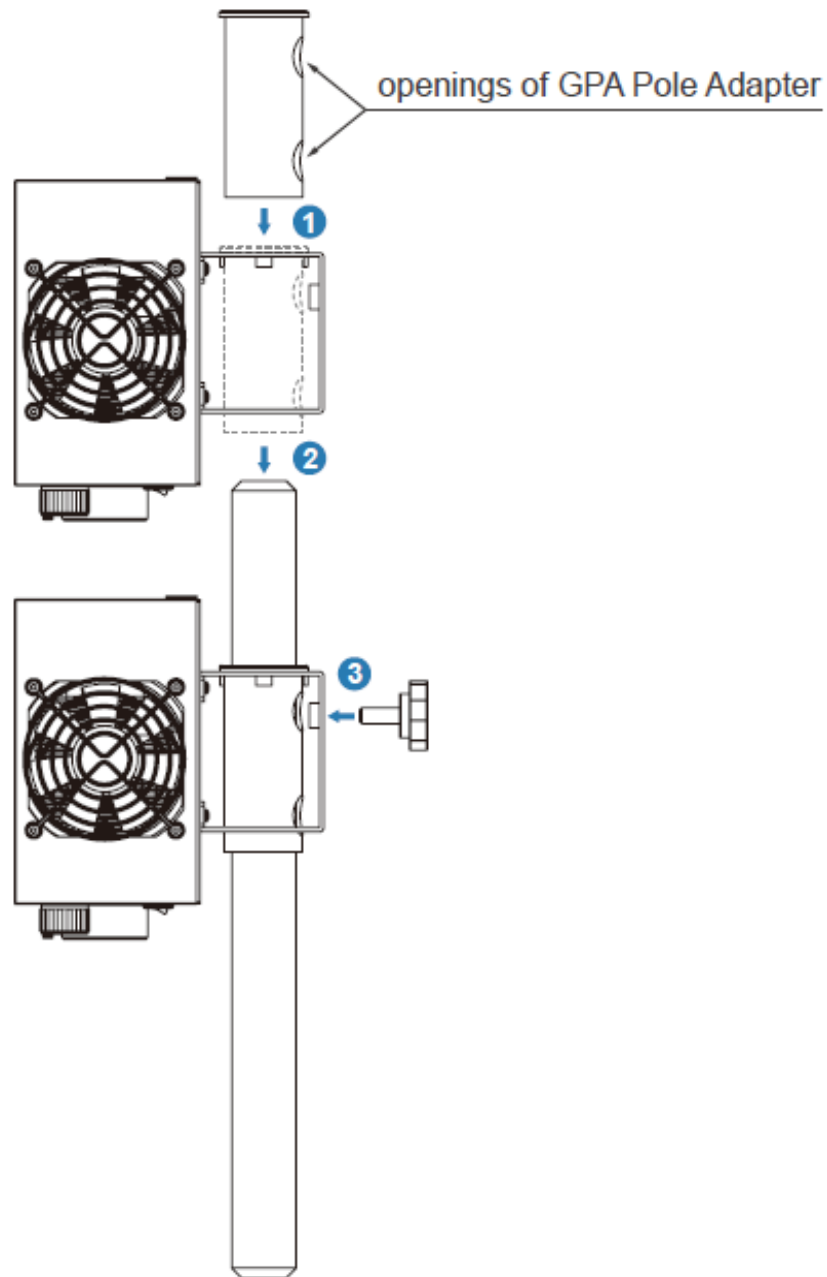


SCOPELED® G250 SERIES ILLUMINATOR

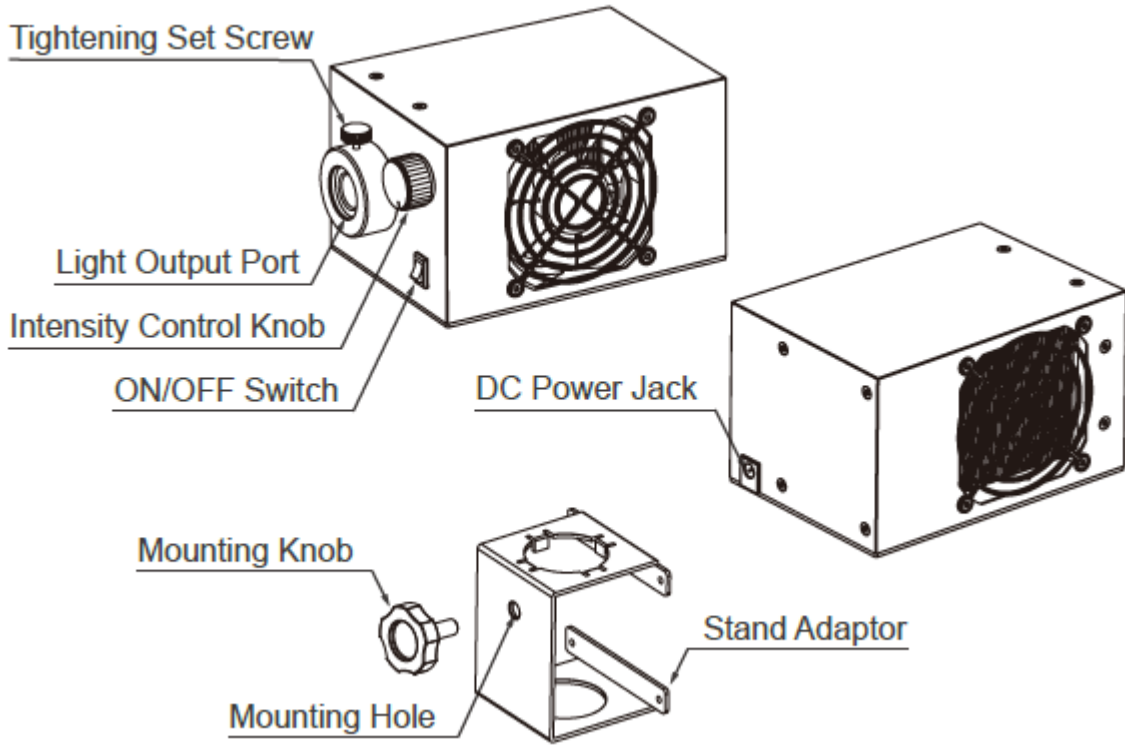
4. Pole Adapter (optional)

SLAG-PA Pole Adapter will be necessary for microscope stand with vertical or horizontal pole diameters less than 40mm.

- Insert SLAG-PA Pole Adapter into G250P Stand Adapter. Be sure the openings on the SLAG-PA Pole Adapter are facing the post thumbscrew
- Slip the set with the insert over the vertical or horizontal pole of microscope stand.
- Use Mounting Knob to fix G250P through Mounting Hole at the appropriate position on microscope stand.



Pole Mount Controls



Installation Recommendations

Mounting

The G250 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 for direct compatibility with the G250 Series Illuminator.

Though the fitting between the output connector of the power adapter 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 adapter as its own hanging device.

Light Guides

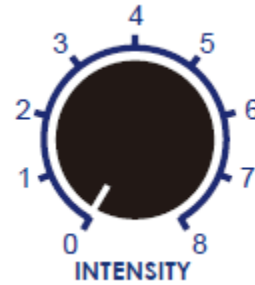
The G250 Series Illuminator is most efficient for light guides in the range of 4 to 25.4 mm outer diameter. The Microscope Illuminator is designed to accept a variety of light guides. Custom size adapters can be made upon request.

MANUAL OPERATION

Control Panel

To manually operate the G250 Series Illuminator, one knob is available for intensity levels.

Single Color (G250T-XXXXK or G250P-XXXXK, XX = 3000, 4300, 5600 or 6500)



Preprogrammed Modes

Preprogrammed Modes for Single Color Output Type (G250T-3000K or G250P-3000K)

Mode	White Light CCT Value
1	3000K

Preprogrammed Modes for Single Color Output Type (G250T-4300K or G250P-4300K)

Mode	White Light CCT Value
1	4300K

Preprogrammed Modes for Single Color Output Type (G250T-5600K or G250P-5600K)

Mode	White Light CCT Value
1	5600K

Preprogrammed Modes for Single Color Output Type (G250T-6500K or G250P-6500K)

Mode	White Light CCT Value
1	6500K

Basic Operation

1. Follow **HARDWARE SETUP** to properly install the G250 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. 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.

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
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	Turn the intensity knob to maximum intensity. 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 adapter to the Microscope Illuminator. Never exceed more than a 15 ft length from the power adapter.
	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 <u>Installation Recommendations & Absolute Maximum Ratings</u>).
	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	24VDC
Input Current	5A Max
Maximum Power Consumption	110W
Operating Temp	0°C to 40°C (32°F to 104°F)
Storage Temp	-20°C to 75°C (-4°F to 167°F)
Humidity	10% to 90%
CCT Range	3000K to 6500K
Table Top Model Weight	1.471KG (3.24lbs)
Pole Mount Model Weight	1.239KG (2.73lbs)

Optical Specifications

Typical Optical Characteristics – Single Color Output Type (G250T or G250P)

Typical CCT / Color Settings	8mm Light Guide	
	Radiant Flux (mW)	Luminous Flux (Lm)
3000K	1950	550
4300K	2300	700
5600K	2350	750
6500K	2350	750

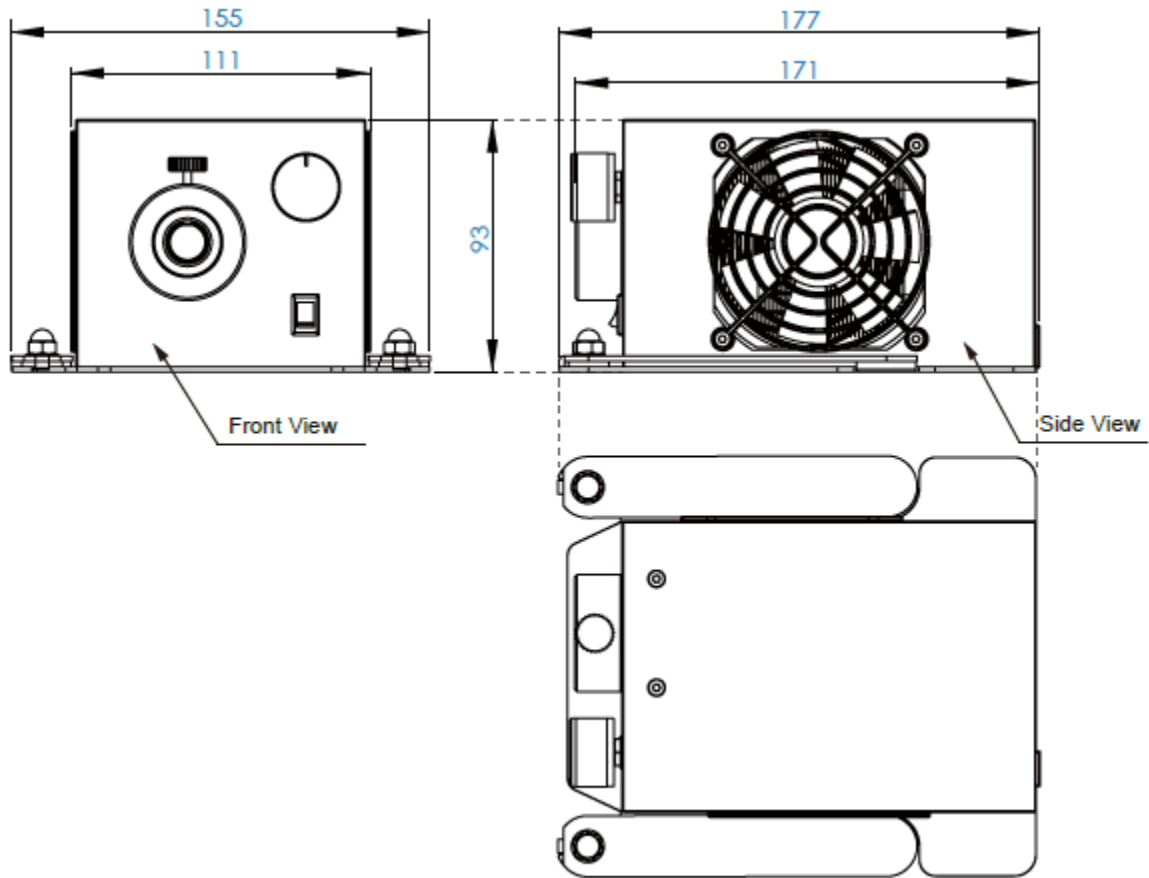
Mechanical Dimensions

Mechanical Dimensions for all Microscope Illuminator models

Model	Dimensions (Illuminator only, unit in mm)
Table Top	177 (L) x 155 (W) x 93 (H)
Pole Mount	171 (L) x 111 (W) x 93 (H)

Mechanical Drawings

G250 Table Top Series



SCOPELED® G250 SERIES ILLUMINATOR

G250 Pole Mount Series

