

4-Head Solid-State UV Spot Light

Output Power and Time Adjustable (Manual and USB Remote)



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BUY NOW



Applications

- UV Adhesive Curing
- UV Irradiation Experiments

Features

- Up to 18 hrs. continuous operation
- Compact
- High Power
- Low Operating Cost
- Long Operation Life

4-Head Solid-State UV Light uses high-power UV LEDs as light sources for curing UV adhesives. Compared to traditional lamp-based systems, the SUV offers the advantages of long life, low power consumption, and compact size. Our superior optical design achieves high light coupling efficiency exceeding 85% and uniform light spot intensity.

Each head can be switched on/off individually by 1) front panel buttons, 2) USB remote, or 3) simultaneously by an optional foot switch. The cure time and UV output power of 4 heads can be adjusted together by the front panel buttons or a computer via the USB interface.

Each LED head features an integrated cooling fan.

Specifications

Parameter	Min	Typical	Max	Unit
Wavelength	365 ±5, 405, 440			nm
Optical Power Density (4mm spot)	2.5		5.5 ^[1]	W/cm ²
Optical Power Density (25mm spot)	100		150 ^[1]	mW/cm ²
LED Electrical Power	14			W
Cure Time Range	10 seconds to 18 hrs			
UV Spot Size ^[2] (∅)	4		50	mm
Working Distance	20		150	mm
Cooling Method	air blowing			
Operation Life	> 25 000			hours
Power supply	AC 100 ~ 240			V
Fuse	1			A

Notes:

[1]. For wavelength above 365nm.

For wavelengths shorter than 365nm, we use the best LED available.

[2]. The spot size is about 4mm at the focus point, by moving away from the focus point, it becomes larger

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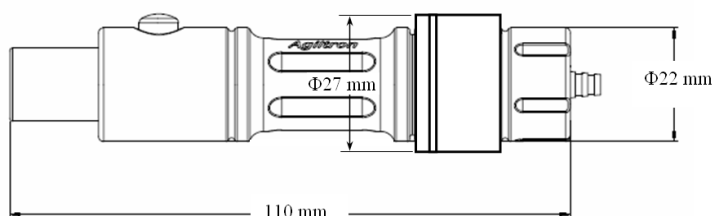
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Recommended UV Epoxy

Supplier	Part Number
Loctite	3972
Epoxy Technology	OG603, OG198
Fiber Optic Center	AB9047, DSM956-105

Mechanical Footprint Dimensions

Component	Dimensions	Unit
UV LED head	Ø22 x 110	mm
Controller	120 x 85 x 200	mm



Standard hardwired cable is 1.5 m long.

*Product dimensions may change without notice. This is sometimes required for non-standard specifications.

Ordering Information (Part Number)

Prefix	Type	Head 1	Head 2	Head 3	Head 4	Head Holder	Cooling Fan	Foot Switch
SUVA-	4-Head = 03 Special = 00	Non = 0 365 nm = 1 385 nm = 2 405 nm = 3	Non = 0 365 nm = 1 385 nm = 2 405 nm = 3	Non = 0 365 nm = 1 385 nm = 2 405 nm = 3	Non = 0 365 nm = 1 385 nm = 2 405 nm = 3	Non = 0 1 = 1 2 = 2 3 = 3 4 = 4	Standard = 1 Special = 0	Yes = 1 No = 0

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UV-Box Control (via Windows GUI)

The screenshot shows the UV-Box GUI window. At the top left is the AGILTRON INC logo. Below it, the 'Connect to UV-Box' section has a dropdown menu set to '--Select--', a 'Refresh' button, and a 'Connect' button. To the right, the 'Get Settings' section has a 'Get Settings' button and a 'Settings' label. The 'Set Parameters' section contains two sub-sections: 'Set Power' with a slider set to 100% and a 'Set' button, and 'Set Timer' with a dropdown menu and a 'Set' button. Below these are two sections for controlling the UV heads. The 'Turn ON UV Heads' section has checkboxes for Head 1, Head 2, Head 3, Head 4, and 'All synchronously ON', along with a 'Turn ON' button. The 'Turn OFF UV Heads' section has checkboxes for Head 1, Head 2, Head 3, Head 4, and 'All synchronously OFF', along with a 'Turn OFF' button. The status of each head is shown below the checkboxes: Head 1 OFF, Head 2 OFF, Head 3 OFF, Head 4 OFF, and All synchronously OFF.

Control via Windows GUI:

1. For setting the desired power, enter the desired value in the provided text box or use the slider to adjust the power level. Once the desired power is selected, click on the "Set" button to apply the settings.
2. To set the timer, click on the dropdown list and select the desired time. Then, click on the "Set" button to apply the settings.
3. To activate the UV heads, select the appropriate checkboxes. Once the desired settings have been selected, click on the "Turn ON" button to activate the UV heads.
4. To deactivate the UV heads, select the desired checkboxes. Once the desired settings have been selected, click on the "Turn OFF" button to deactivate the UV heads.
5. To review the current settings, click on the "Get Settings" button to check the current values

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Control Protocol

Baud rate: 9600 bps, data length: 8 bits, parity: none, stop bit length: 1 bit.

One command frame takes 4 bytes as follows, byte format is hexadecimal

HEAD CMD DATA SUM

HEAD: Head byte, is constant A5.
 CMD: Command byte, valid range C0 ~ C6.
 DATA: Data byte.
 SUM: Check sum byte, SUM = HEAD+CMD+DATA

Command	Echo	Description
A5 C0 X1X0 S1S0	C0 X1X0	Switches UV Port(s) on: X1X0=0Y, Y = b3b2b1b0 (4 bits of the lower nibble, multi-bit selectable) b0 = 1 : Port 1 on. b1 = 1 : Port 2 on. b2 = 1 : Port 3 on. b3 = 1 : Port 4 on. X1X0=F0 : 4-Port synchronously on * S1S0=A5+C0+X1X0
A5 C1 X1X0 S1S0	C1 X1X0	Switchs UV Port(s) off: X1X0=0Y, Y = b3b2b1b0 (4 bits of the lower nibble, multi-bit selectable) b0 = 1 : Port 1 off. b1 = 1 : Port 2 off. b2 = 1 : Port 3 off. b3 = 1 : Port 4 off. X1X0=F0 : 4-Port synchronously off * S1S0=A5+C1+X1X0
A5 C2 X1X0 S1S0	C2 X1X0	Set UV power in percentage. X1X0=00~64H : Percent number 0% ~ 100% * S1S0=A5+C2+X1X0
A5 C3 X1X0 S1S0	C3 X1X0	Set Time counter index number. X1X0=01H~0AH : 1~10 seconds X1X0=0B/0C/0D/0E/0FH : 15/20/30/40/50 seconds X1X0=10H~18H : 1~9 minutes X1X0=19/1A/1B/1C/1DH : 10/20/30/40/50 minutes X1X0=1EH~2FH : 1~18 hours * S1S0=A5+C3+X1X0

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Command	Echo	Description
A5 C4 00 S1S0	C4 X1X0	Read UV Port(s) status. X1X0=0Y, Y = b3b2b1b0 (4 bits of the lower nibble) b0 = 1 : Port 1 is on. b1 = 1 : Port 2 is on. b2 = 1 : Port 3 is on. b3 = 1 : Port 4 is on. X1X0=F0 : 4-Port synchronously on * S1S0 = A5+C4+00=69H
A5 C5 00 S1S0	C5 X1X0	Read UV power in percentage. X1X0: Refer to "Set UV power in percentage". * S1S0=A5+C5+00=6AH
A5 C6 00 S1S0	C6 X1X0	Read Time counter index number. X1X0: Refer to "Set Time counter index number". * S1S0=A5+C6+00=6BH

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Questions and Answers

Q: What is the best wavelength I should choose if my epoxies have a wide range of curing wavelengths?

A: All epoxies can be cured at a shorter wavelength since these UV lights are more energetic and provide better and deeper curing. However, not all epoxies can be cured at a longer wavelength that requires a special formulation to be cured thoroughly.

Q: If I want to cure a UV epoxy through a piece of transparent plastic, what wavelength head should I choose?

A: Transparent plastic blocks 365nm UV light. Therefore one needs to choose an epoxy that can be cured at 450nm and choose the matching head.

Q: Is the UV head output power calibrated?

A: The output power of each UV head is tested to meet the range stated on the datasheet. Since the output power of each UV head is highly sensitive to the actual sample position, we recommend customer to calibrate the power density using a power meter in place of the sample. The power can be changed by adjusting the UV head position using our holder or by setting it in the four-head control box.