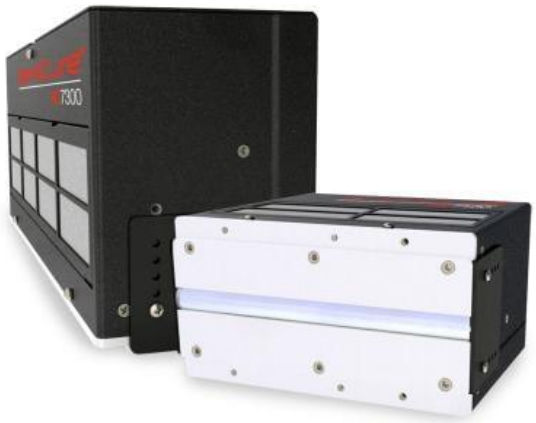
OmniCure®

OmniCure® AC7+ User Guide



Applicable for the following UV LED Head models:

Model Number	Part Number	Description	Optical Length, mm
AC7150+ 365	019-00480R	AC7150+ 365 nm UV LED Head	150
AC7150+ 395	019-00468R	AC7150+ 395 nm UV LED Head	150
AC7300+ 365	019-00481R	AC7300+ 365 nm UV LED Head	300
AC7300+ 395	019-00470R	AC7300+ 395 nm UV LED Head	300

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1. Introduction

As a leading developer of light-based systems for sectors ranging from manufacturing to bio-medicine, Excelitas® pioneered the OmniCure® family of UV LED light systems, combining next generation optical engineering and state-of-the art electronics to produce sophisticated technologies that employ light. Continuing with our track record of innovation, reliability, and unmatched quality and service, we are pleased to offer the all new OmniCure AC7⁺ series.

The OmniCure AC7⁺ series represents a new standard in UV LED curing systems. This new series provides unsurpassed levels of power, irradiance performance, control and monitoring in a compact form factor. The OmniCure AC7⁺ series systems are offered alongside a variety of power supply, controller, accessory and cabling options, providing configuration flexibility to suit any application for end users and integrators alike.

Optical output is controlled via a PLC interface enabling a high degree of automation. At the heart of the OmniCure AC7⁺ series are the arrays of LEDs, housed within the UV LED Head and located adjacent to the optical lens, providing excellent spectral and power stability. The UV LED modules have a typical L70 life expectancy in excess of 20,000 hours for 365 nm and 40,000 hours for 395 nm of accumulated 'on' time, made possible by the integration of state-of-the-art electronics, effective thermal management and high-performance optics. Acoustic noise is minimized through innovative load-adaptive fans that keep the LEDs operating efficiently and reliably while minimizing the resultant noise levels.

The OmniCure family of UV LED light systems use segment uniformity control. Segment control is the ability of a UV LED head to enable monitoring and adjustment of the output of small groups of LEDs along the width of the head. Each segment can be driven at its own intensity level, allowing precise control over the spatial distribution of UV irradiance.

The benefits of Segment Control include:

Improved Uniformity:
LED output can vary due to manufacturing tolerances, temperature gradients, or aging effects. Segment control compensates for these variations by fine-tuning the intensity level of each segment, maintaining consistent intensity across the entire curing area.

Process Flexibility:
Different print layouts or substrates may not require full-width curing. Segments can be dimmed or turned off where light is not needed, reducing thermal load and energy consumption. This selective operation also allows different curing intensities for specific regions based on ink density or material sensitivity.

Extended Lifetime and Stability:
Operating each LED segment with only the required intensity minimizes heat generation and thermal stress. This results in longer LED lifetimes and more stable long-term performance.

Dynamic Control:
When integrated with a motion or print control system, segment control enables real-time adjustment of the curing profile-useful for variable print widths, patterned curing, or energy-optimized production.

The AC7⁺ includes integrated RS485 communication, eliminating the need for the PLC2000 remote control console. This feature also enables multiple LED heads to be connected directly without requiring the PLC2000.

We recommend reading this guide to discover all features of the OmniCure AC7⁺ series systems, and how to use them.

2. Safety Precautions / User Warnings

2.1. GLOSSARY OF SYMBOLS:



Caution risk of danger—consult accompanying documents.



Risk Group 3 (IEC62471)
WARNING: UV emitted from this product. Avoid eye and skin exposure to unshielded product.
CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare into operating lamp.



Input/ Output Signals



Input Signal



Caution, Hot Surface



Protective Conductor Terminal



Earth (Ground) Terminal



CAUTION: Risk of Electrical Shock

2.2. SAFETY PRECAUTIONS:

This series of cautions and warnings relate to the installation, operation and maintenance of the OmniCure AC7^{+} series system. They are also presented throughout this User Guide as applicable.



WARNING
Do not stare directly at the light emitted from the LED array. This may be harmful, resulting in eye injury. Always use UV protective eyewear as indicated below. Additionally, protect any exposed skin with appropriate clothing or shielding as required.



WARNING
UV protective eyewear must meet the following recommended optical specifications:
Spectral range; 350-440 nm
Optical Density ≥ 6



WARNING
Should the OmniCure AC7^{+} system be used in a manner not specified by Excelitas Technologies, the protection provided by the equipment may be impaired.



The UV LED Head operation can be affected if handled incorrectly. Never touch the protective lens cover assembly of the UV LED Head. The presence of skin oils may result in a decrease in system performance.



Always ensure the power supply unit is turned off prior to disconnecting or re-connecting the UV LED Head.



WARNING
Monitoring the system during automated operation:

The level of UV energy supplied by the OmniCure AC7^{+} is sufficient to ignite flammable substances. Therefore, when the unit is operated unattended in an automated environment, an alarm function must be provided by the user to indicate a malfunction in the associated equipment used. During installation appropriate measures must be included to prevent any such occurrence.

3. Optical Safety Data

IEC 62471: Photobiological Safety of Lamps and Lamp Systems

Resulting Classification and Labelling

Hazard	AC7⁺ 365	AC7⁺ 395
Actinic UV	Risk Group 3	Risk Group 3
Near UV	Risk Group 3	Risk Group 3
Blue Light	Risk Group 1	Risk Group 1
Retinal Thermal	Exempt Group	Exempt Group



4. Getting Started

4.1. PACKAGING CONTENTS

Each unit package contains one UV LED Head.

Carefully unpack the unit and store the packing material for future use.

4.2. SYSTEM REQUIREMENTS

In addition to the UV LED Head, you will require the following components:

- Power supply
- Power cable

You will also require a PLC controller unless you are using an existing controller. The PLC controller is used to discover the extensive functionality of the UV LED Head. Integrators can access the full feature set through integrating with the PLC interface directly. Refer to section *Integrating with the PLC*.

Power supply and cabling may be sourced separately or may be purchased from Excelitas. Check with Excelitas to determine the appropriate components for your requirements. The following table provides the part numbers of recommended component parts, as well as a part number to order all components as a package.

	AC7150+ 365	AC7150+ 395
UV Head	019-00468R	019-00470R
Power Supply	019-00195R	019-00195R
DC Power Cable	018-00559R	018-00559R
PLC Controller	019-00214R	019-00214R

	AC7300+ 365	AC7300+ 395
UV Head	019-00187R	019-00196R
Power Supply	019-00186R	019-00186R
DC Power Cable	018-00559R	018-00559R
PLC Controller	019-00214R	019-00214R

Other accessories are available for specific requirements, please contact your sales associate to determine the appropriate components for your requirements.

4.3. CONNECTING THE POWER SUPPLY AND PLC CONTROLLER

Note: All connectors are via screw style fastener-do not over tighten the connector screws.

Note: The following is a generic procedure, illustrated with the common components described above; please refer to specific documentation related to your power supply and controller.

Tip: After securing the power cable to the power supply, it is recommended to "tie-off" the female connector cable on to the mounting brackets *or process rigging as a form of strain relief.*

1. Connect the AC power cord to the power supply.

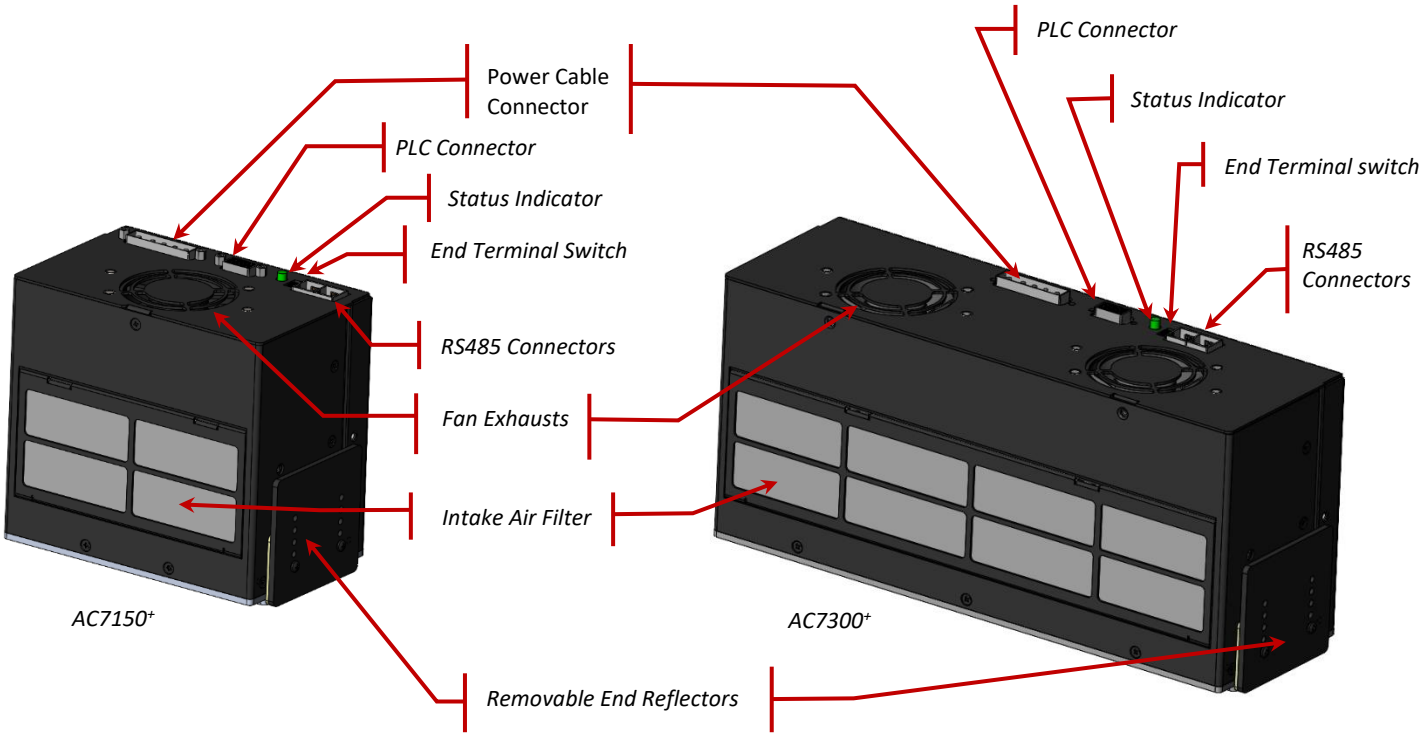


Figure 1 UV LED Head Connection Ports

2. Attach the male end of the power cable to the power supply unit and connect the female end of the power cable to the UV LED Head.
3. Attach the female end of the PLC cable to the PLC I/O connector on the PLC2000 and the male end of the PLC cable to the UV LED Head.
4. Connect the PLC loop-back connector to the PLC pass-through port.
5. Power up the UV LED Head per section *Powering Up and Powering Down*, then push the LED Enable button on the controller to turn power on to the LED Head.
6. Adjust intensity using the up or down buttons to the right of the display, to increase and decrease the intensity respectively. Refer to section *Using the LED Head*.

7. UV LED & Temperature faults will be indicated by an illuminated LED on the control console. To clear, press the Clear Fault button.

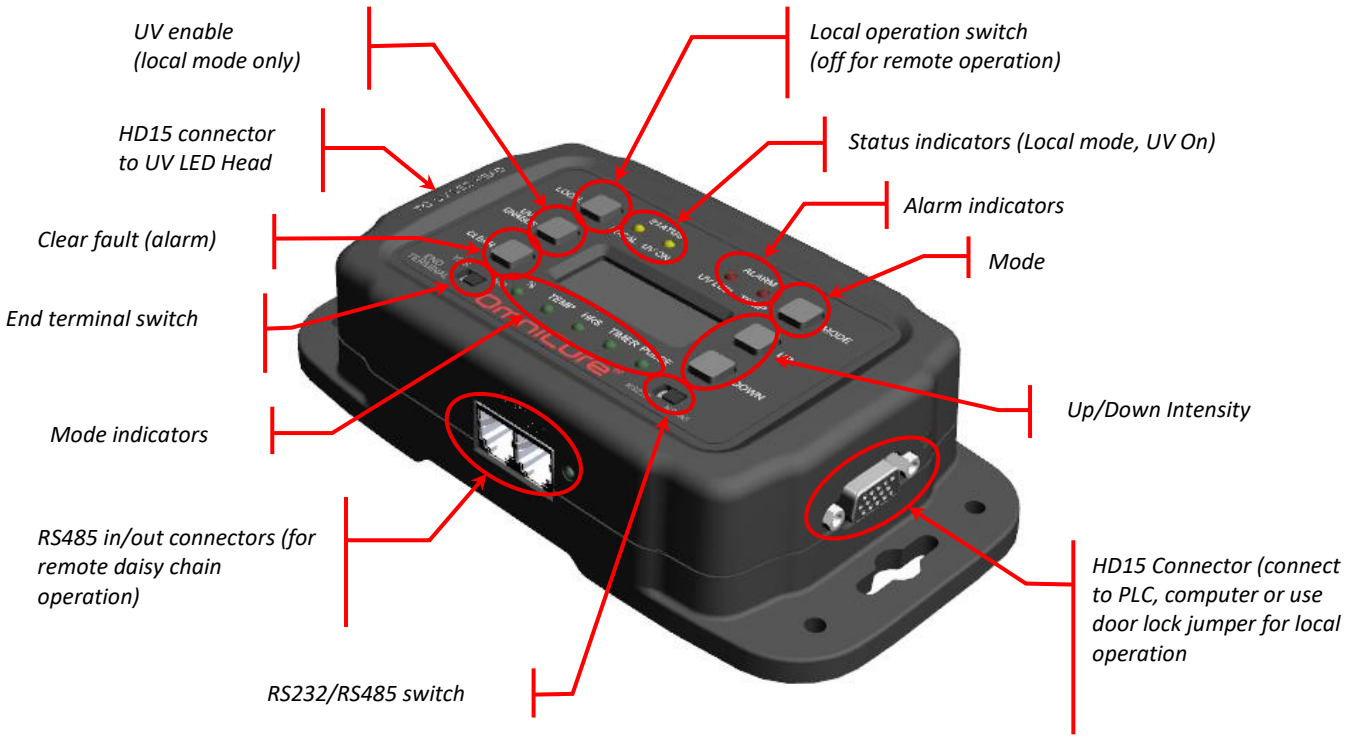


Figure 2 PLC Console (PLC2000 Remote Control Console shown)

4.4. POWERING UP AND POWERING DOWN

Ensure that the AC7⁺ system has been properly installed and the UV LED Head is securely mounted in the desired orientation. Refer to section *Mounting the UV Head*.

Verify that the power supply unit's AC supply cord is connected to a properly grounded AC outlet.

If your power supply has a circuit breaker, switch it to the "ON" position.

Turn the main power switch of the power supply to the "ON" position and check the fan for airflow.

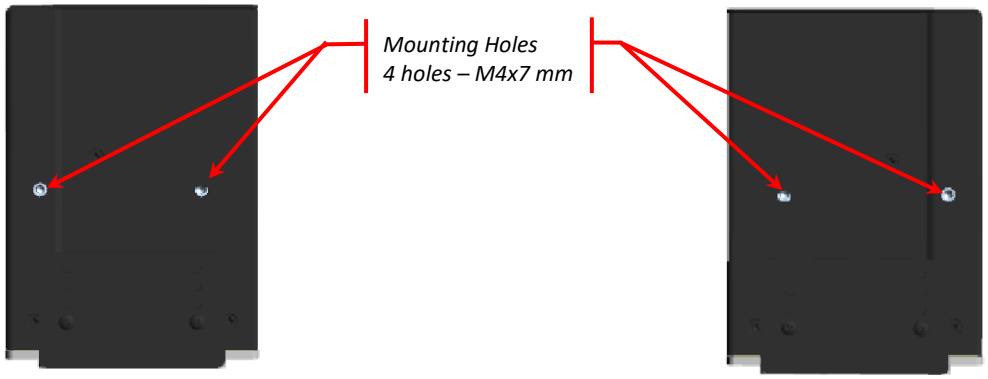
The LED indicator on the UV LED Head will *flash* green during "boot-up" and change to a *steady* green indicating UV LED Head is ready for use. It is recommended to wait for 1 minute from "cold state" to "ready state" before applying UV power to the Head. For more information about the indicators, see section *Understanding the LED Indicators*.

After turning on UV power, the system will reach a fully stable operating temperature in 2-3 minutes. **Caution**—the UV LED Head can become very hot, avoid handling until the UV LED Head has cooled (approx. 5 min) or use protective gloves.

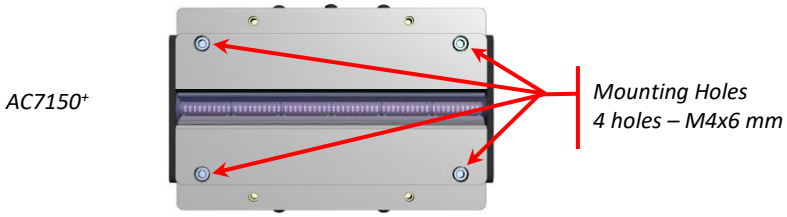
Before disconnecting any cables, power down the UV LED Head using the PLC controller and turn off the power supply. (Note: the cooling fan may take up to 10 seconds to stop).

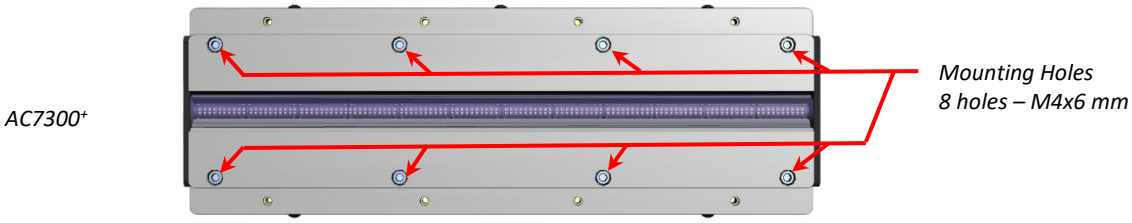
5. Mounting the UV Head

5.1. UV LED HEAD (SAME FOR ALL MODELS)



Right—Hand and Left—Hand Mounting Locations





Underside Mounting Locations

Figure 3 UV LED Head Mounting Details

5.2. MOUNTING THE UV LED HEAD

WARNING
Do not block the air intake or exhaust vents of the UV LED module cooling system. Maintain a minimum clearance of 5 inches (12 cm) around both intake and exhaust areas to ensure adequate airflow.

The UV LED Heads incorporate both side mounting and underside mounting features.

Refer to *Figure 3* above.

For single-head applications, either the side or underside mounting features can be used. Never mount the system using only one row of mounting features or from one side as this may damage the unit.

For applications requiring adjoining UV LED Heads, the underside mounting features are the only features that can be employed. To prevent any unnecessary mechanical compression-loading on the unit, mounting rails can be constructed from two long L-brackets, facing each other and spaced 75 mm apart. For adjoining-head applications, remove the end-reflectors from all head-head abutment regions to maximize head-head optical uniformity. The end-reflectors on the end-most points of the optical line can remain in place to further extend uniform operating length and operate as a UV shield for operators.



****CAUTION****
The threaded mounting holes in the AC7⁺ incorporate a blind configuration. Ensure that the appropriate length of mounting hardware is used. Attempting to install over-length mounting screws can damage the threaded mounting holes and internal components.

5.3. ADJUSTING THE SIDE REFLECTORS

To improve the longitudinal uniformity at the ends of the UV light line, the AC7⁺ series products are equipped with adjustable end reflectors. These reflectors can be lowered in 10mm increments and can provide about 15mm of extended useful length when fully extended to 30mm working distance. They may also be useful in providing additional operator shielding of UV light.

To gain the best effect from this mechanical feature, ensure that “in the intended installation location” the reflectors will not interfere with conveyed parts, conveyor belt, or other mechanical attachments. Failure to do so may result in damage to ancillary hardware or the UV LED Head itself.

To adjust the reflectors:

- Ensure that power to the unit is switched off.
- Remove the two screws holding the end reflector in place.
- Move the reflector down to the desired position, insert and tighten the two retaining screws.
- This operation can be performed on a single head using either the side mounting or front mounting scheme.



****CAUTION****
When the end reflectors are removed from the head, the ends of the optical assembly and LED modules become exposed.

Use extreme caution to prevent fingers, tools, or any foreign objects or debris from contacting these areas, as this may cause serious damage or impair the performance of the AC7⁺ series UV LED Head.

The installer should minimize both the duration and frequency that these areas remain unprotected.

5.4. UV LED HEAD DIMENSIONS

The UV LED Heads have the following masses:

Model	Weight kg (lbs)	Max Dimensions wo/ end plates (L x W x H), mm
AC7150⁺	3.6kg (7.9 lbs)	152 x 100 x 148
AC7300⁺	5.2kg (11.5 lbs)	305 x 100 x 148

Dimensions of the two models are shown in the Figures below.

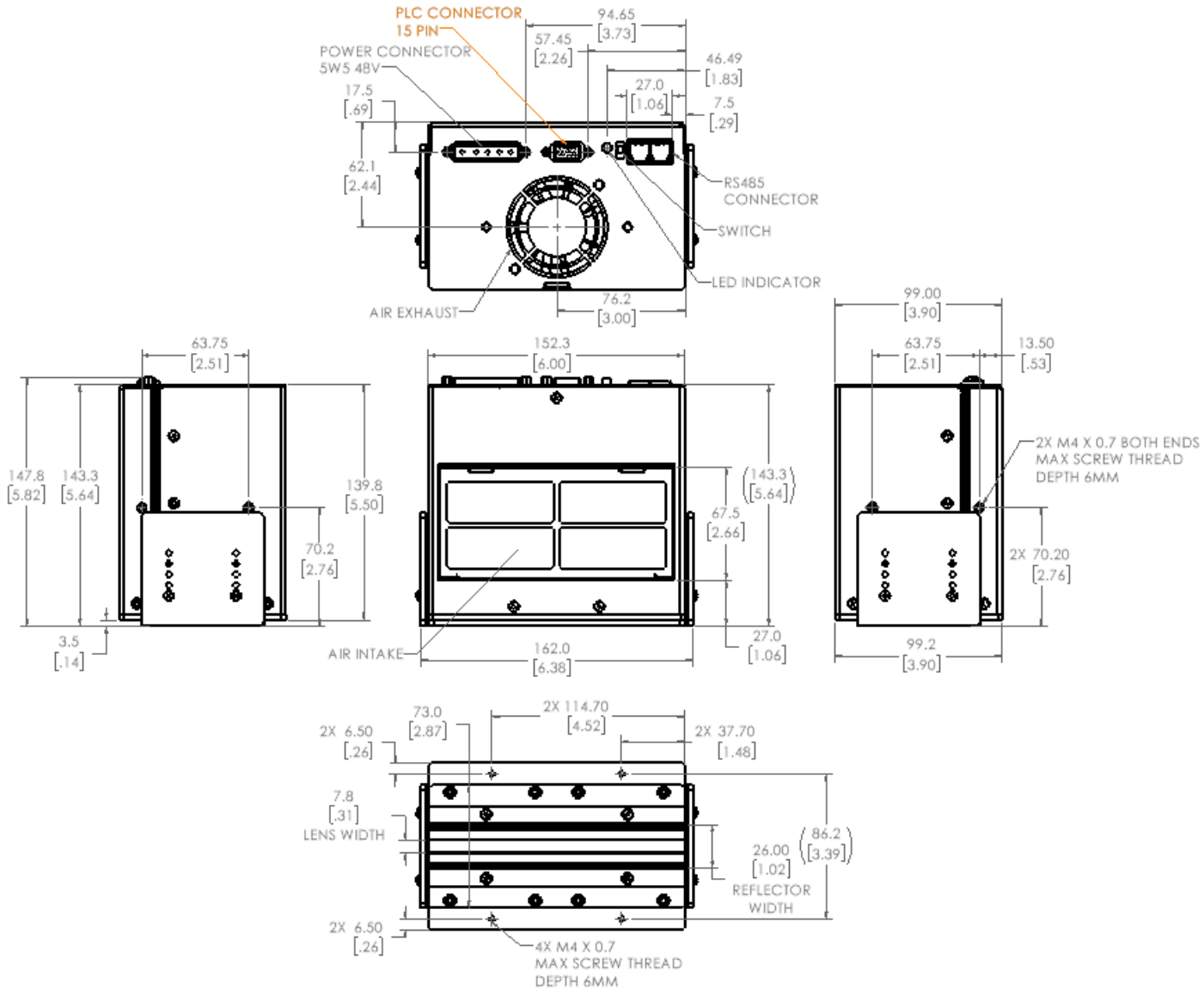


Figure 4 Dimensions of AC7150⁺

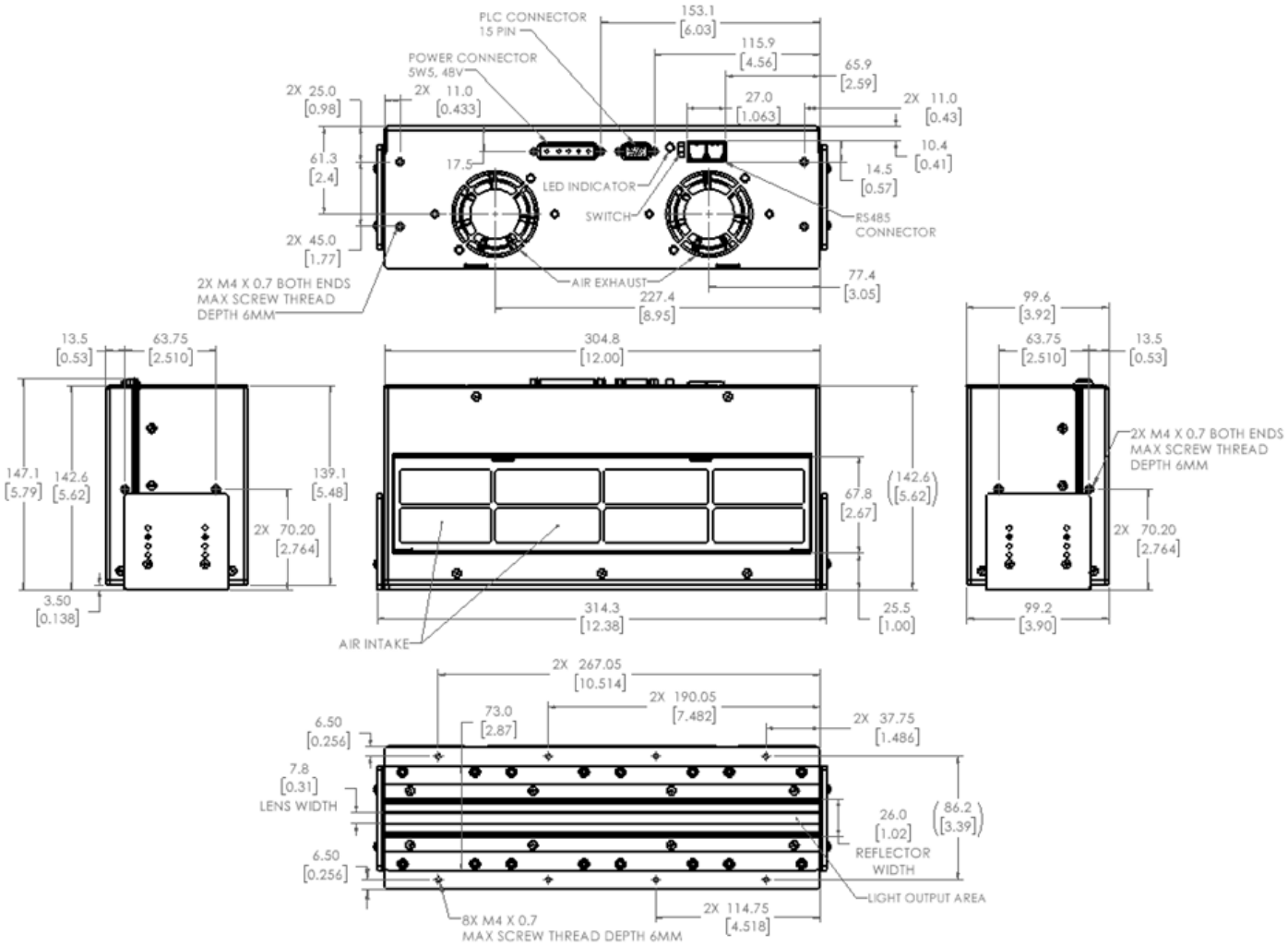


Figure 5 Dimensions of AC7300⁺

6. Connecting the UV LED Head

6.1. INTERFACING WITH THE PLC

6.1.1. PLC Input Signal Requirements

	Digital	Analog
Input	Voltage: 0 – 24V Current: 1 – 30 mA	Voltage: 0 – 5V Current: 500 uA
Output	Voltage: 0 – 5V Current: 2.5 mA (max.)	

6.1.2. PLC Connector Pinouts

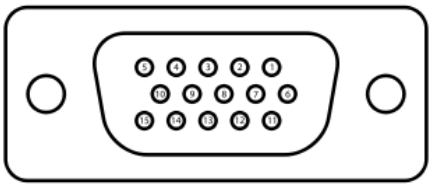


Figure 6 PLC Connector (looking at UV Head)

PIN	Name	Description
1	Intensity Input	Input voltage is converted to required current to achieve desired intensity; intensity will vary linearly between 20% and 100% for voltages between 1V and 5V respectively. A minimum of 0.4V is required for proper light-source operation. If a voltage below this threshold is applied, the light source will not turn on. Note: This behavior does not apply when the intensity input has been disabled via an RS232 or RS485 command.
2	Enable High	0.0V to +0.6V = Turns LEDs off (Open input will default to OFF). +2.4V to +24.0V = ON.
3	Enable Low	0.0V to +0.6V = Turns LEDs on. +2.4V to +24.0V = Turns LEDs off (Open input will default to OFF).
4	Thermal Fault	0.0V to +0.4V (ground) = Fault +2.4V to +5.0V (open) = No Fault
5	IsoDGND	Ground Reference for digital IOs
6	IsoVCC	+5.0V Output.
7	Reserved	Do not connect
8	Door Lock *	0.0V to +0.6V = UV Emission Allowed. +2.4V to +24V = UV Emission Stopped.
9	IsoGND	Ground Reference for analog IOs.
10	LED ON	0.0V to +0.4V (ground) = LED off +2.4V to +5.0V (open) = LED on.
11	Reserved	Do not connect

PIN	Name	Description
12	UV LED Fault	0.0V to +0.4V (ground) = Fault +2.4V to +5.0V (open) = No Fault
13	Reserved	Do not connect
14	Clear Fault/ LED Hours	High-to-low transition clears faults; low-to-high transition initiates visual indicator sequence of accumulated LED hours
15	Temperature Monitor	Output is a voltage proportional to the maximum UV LED heat sink temperature. Conversion Factor: 0.05 V/°C.

Table 1 PLC Connector Pinout

6.2. INTEGRATING MONITORING WITH EXTERNAL CIRCUITRY

All inputs and outputs from the PLC interface are opto-isolated. The digital outputs are implemented using NPN logic. The equivalent circuit is shown below.

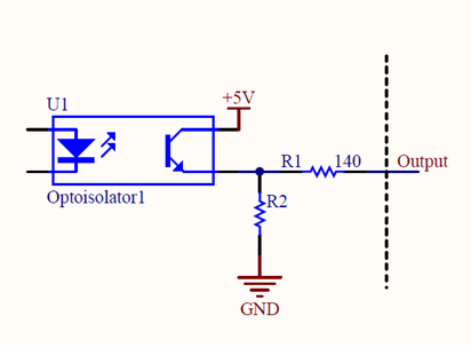


Figure 7 PLC Digital Output Equivalent Circuit

6.3. INTERFACING WITH THE POWER CABLE

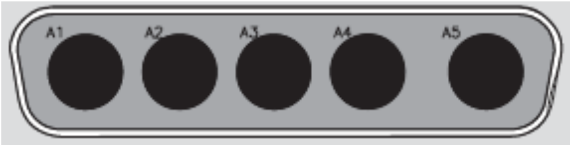


Figure 8 Power Connector (looking at UV Head)

PIN	Name	Description
A1, A2	+ve	48V DC power feed. A1 and A2 shorted together internally
A3, A4	-ve	48V DC power return. A3 and A4 shorted together internally
A5	Chassis	Chassis ground connection

Table 2 Power Connector Pinout

48V Input Requirements:

Voltage: 46-50V DC

Current:

AC7150⁺:

- 365 nm = 10.4 A
- 395 nm = 10.1 A

AC7300⁺:

- 365 nm = 20.7 A
- 395 nm = 20.2 A

Note: For safety, the AC7⁺ series is internally fused. The fuses are not replaceable. If it is suspected that an internal fuse has blown, please contact Excelitas Service Centre for further assistance and refer to the sections *Warranty* and *Contact Information*.

7. Using the LED Head



The peak wavelength of the UV LED Head is 365 nm or 395 nm depending on model.

For all models, adjusting the UV LED Head intensity can be actuated by an external controller via the PLC interface. For pinouts, refer to section *Connecting the UV LED Head*.

Input voltage vs. desired intensity; 5V = 100% and 1V = 20%. A minimum voltage of 1V is required for light source operation.

Note: The light source will maintain a 20% intensity when the input voltage is in the range of ~0.5-1V. If the input voltage is below this, the light source will turn off.

Ensure the UV LED Head indicator is illuminated to a *steady* green before applying UV power to the head.

The UV LED Head indicator will illuminate to a *steady* amber indicating UV is on. When UV is off, the indicator will revert to a *steady* green indicating UV is off.

The UV LED Head can respond to PLC control signals in less than 0.2 seconds.

7.1. UNDERSTANDING THE LED INDICATORS

LED Indicator	Condition
Steady green	System Ready; no critical faults
Steady amber	UV LED turned ON
Steady red	Critical fault Temperature Fault LED Fault System Error

LED Indicator	Condition
Slow flashing green	POST and Initialization Input voltage is less than 46V or greater than 50V. Unit is still functional.
Slow flashing red	Major and critical fault
Slow flashing amber	UV LED ON with 48V input voltage out of requirement
Fast flashing green	Warranty status—operating hours is < 9000
Fast flashing amber	Warranty status—operating hours = between 9,000 and 10,0000
Fast flashing red	Warranty status—operating hours is > 10000

Table 3 LED Indicator Status (UV LED Head)

A transition from high-to-low is required to clear the alarm signals. Use the PLC function:

Pin #	Description	I/O	Behavior
14	Clear fault/ LED hours	In	0V to 0.6V (Open) Logic Low 2.4V to 24V Logic High High-to-low transition = clear faults Low-to-high transition = LED hours

Caution: Routine maintenance must be performed only by qualified Excelitas personnel to prevent risk of injury. There are no user-serviceable components inside the power supply or UV LED head enclosures.

7.2. FAULT STATUS—PLC OUTPUT

LED Fault: At least one module fails to turn on.

Thermal Fault that includes:

- At least one module's temperature is over the maximum limit.
- At least one module's temperature is lower than the minimum limit or open circuit.
- Internal Fault.

Ensure air intake and exhaust are unobstructed and filter is unclogged. Refer to section *Cleaning the LED Head Air Intake*.

7.3. RS485 COMMUNICATION

The AC7⁺ series LED Heads support RS485 communication for control and monitoring without requiring the PLC2000. The two RJ11 connectors are provided for RS485 communication allow multiple heads to be daisy-chained. In the case were heads are daisy-chained, the last device on the RS485 bus must be terminated with a 120 Ω resistor. This termination is enabled using the terminating resistor switch located on the head.

If the PLC2000 is not used and communication is only over RS485, a PLC loop-back connector must be plugged into the head as shown. A PLC loop-back connector is included with every head.

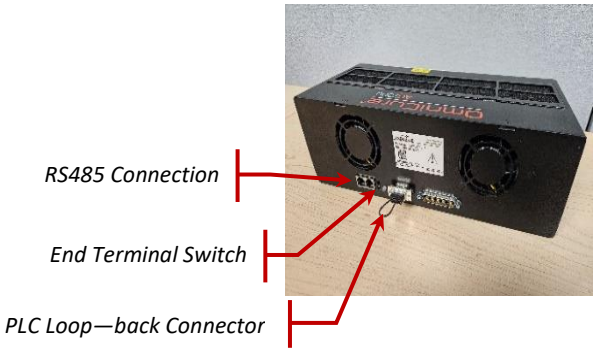


Figure 9 Loop Back Connector

8. Troubleshooting

8.1. SYMPTOMS AND POSSIBLE CAUSES

Service to be completed by qualified Excelitas personnel only!

Always wear optical safety glasses while troubleshooting. Never put hands or fingers in front of the lens. Serious personal injury may result.

Do not place any potentially combustible materials (e.g. paper, card, etc.) in front of the LED Head. Risk of fire and damage to the UV LED Head may result.

If the system fails to power up:

- Make sure the AC power cord is securely plugged into a functional AC outlet and into the AC inlet on the power supply unit.
- Make sure that the circuit breaker on the power supply unit is not tripped. If so, reset breaker.
- Make sure all cable connections (power supply to UV LED Head) are secure.
- Ensure that the power supply is switched on and the green LED indicator on the front panel is lit.
- Make sure the door lock electrical loopback on the PLC is installed properly.

If the system powers up but experiences a thermal fault during operation:

- Ensure UV Head is installed with adequate clearance around intake and exhaust ports.
- Ensure intake air filter is not clogged or obstructed.
- If filter is clogged, either clean with compressed air or replace with a new filter insert.

If the system powers up but does not emit UV:

- Check that the door lock loop is intact.
- Ensure that the voltage levels on pins 2 and 3 of the PLC interface match the logic required to enable the LEDs.
- Check the visual indicator for signs of a fault.

If a fault condition has been detected:

- Attempt to clear the fault by toggling the voltage high on pin 14 of the PLC interface or by pressing the “Clear Fault” button on the PLC controller.

- If the system exhibits a fault condition with a slow-flashing red, power-cycle the UV Head to clear.

If the light intensity is too low:

- Make sure the input voltage is at least 46V (input voltage to the Head for the purposes of powering the head is typically 48V (46-50V DC)).
- Out-of-range input voltage will be indicated on the visible indicator on the UV LED Head with a slow flashing green.
- Clean the optical window of the UV LED Head as described in section Cleaning the LED Head.
- Verify that the intensity level of the UV LED Head is set to the correct level, using the PLC Controller.

If problems persist beyond these troubleshooting point, please contact Excelitas Department (refer to section *Contact Information*).

9. Care and Maintenance

Note: Excelitas recommends incorporating the cleaning of the optical window into the user/operator cleaning and maintenance schedule.

9.1. CAUTIONS AND HANDLING



Caution: Routine maintenance should only be completed by qualified personnel to avoid risk of injury/electrical shock to the end user. No user serviceable components are located within the UV LED Head enclosure.



Warning: Use UV radiation eye and skin protection during servicing if access to the UV LED modules is required during operation.

Risk Group 3 (IEC62471)
WARNING: UV emitted from this product. Avoid eye and skin exposure to unshielded product.
CAUTION: Possibly hazardous optical radiation emitted from this product. Do not stare into operating lamp.



CAUTION UV: Hazardous visible radiation is emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding.

Ensure main power supply is disconnected prior to making any changes to cabling configurations.

Operate the unit in a well-ventilated area with at least 5 inches (12cm) clearance on both sides of the system power supply unit for proper air flow. Ensure that both intake and exhaust vents located on the LED Heads have at least 5 inches (12 cm) of clearance to allow sufficient air flow.

Avoid physical shocks or jarring of the LED Head, especially while the unit is operating.

When necessary, clean the optical window of the UV LED Head using an optical cleaning solution. Refer to section *Cleaning the LED Head*.

The outer lens frame of the UV LED Head includes an optional optical window assembly. Improper handling and cleaning practices can damage polished surfaces or coatings which are utilized in this optical window. **Note**: Damage to the surface of the glass or coating can degrade the unit's performance. Proper handling and cleaning techniques are very important. Below are the recommended procedures for cleaning of the OmniCure UV LED Head optical window.

Always handle the UV LED Head by the metal enclosure and never touch the optical window with your fingertips. The moisture or oils on your fingertips can damage the coating of the lens window. Fingerprints left

on an optical surface for an extended period of time can become a permanent stain. Even if you are wearing gloves, avoid touching the optical surface.

Never handle the optical window with metal implements or tweezers.

Do not place the UV LED Head lens assembly onto a hard table-top surface as this can cause scratches in the window surface.

To store UV LED Heads, wrap them individually in a clean, lint-free bag and store in a safe place.

Never store unwrapped LED Heads together in a box or bag, as they may become damaged if they come in contact with each other.

9.2. CLEANING MATERIALS

- Lint-free lens tissue, lint-free cotton swabs, lint- or powder-free gloves or finger cots.
- An organic solvent, such as reagent-grade isopropyl alcohol, reagent-grade acetone, or lens cleaning solution.

9.3. CLEANING THE LED HEAD



****WARNING****
Do not attempt to open the enclosure of the LED Head. Ensure power to the power supply unit is OFF and the UV LED arrays are cool before attempting any cleaning procedure.

Use protective gloves or finger cots suitable for the cleaning solution selected. Refer to the Materials Safety Data Sheets (MSDS) for guidance.

Turn off the UV LED Head and keep the optical window, face down to prevent the solvent from seeping into the window during the cleaning procedure.

Blow off dirt and dust with pressurized air on front glass surface.

Use a lens tissue folded into quarters or a lint-free cotton swab. Saturate the lens tissue or swab with organic solvent as indicated in the section *Cleaning Materials*.



****CAUTION****
Before using any solvent, consult the manufacturer's MSDS and your internal Health and Safety Advisor for proper handling and storage.

Using a new saturated tissue; clean optical window by gently wiping the surface with a continuous stroke in one direction.

Note: Never apply a dirty tissue or swab to the optical window of the UV LED Head.

Note: Never face the optical window upwards before the solvent has evaporated.

9.4. CLEANING THE LED HEAD AIR INTAKE



****CAUTION****
Ensure that the LED Head power cable is disconnected from the head assembly and the UV LED Head is cool to the touch.

The air intake filter is located on the exterior of the LED Head and is removable for cleaning as required. Remove the filter frame by gently prying the frame from the clip end. Next, remove the filter media located within and clean with compressed air or the appropriate solvent as required.

Replace the filter and frame prior to powering up the LED Head.

10. Technical Specifications

10.1. ENVIRONMENTAL CONDITIONS

Operating Conditions	
Ambient Temperature	10 to 40 °C
Altitude, maximum	3000 m
Atmospheric Pressure	700 to 1060 hPa
Relative Humidity	10% to 80% (non-condensing)
Installation Category	II
Pollution Degree	2
Transport and Storage Conditions	
Temperature	-20 to +75 °C
Relative Humidity	0% to 80% (non-condensing)
Atmospheric Pressure	500 to 1060 hPa

Table 4 Environmental Conditions

10.2. UV LED HEAD SPECIFICATIONS

Specification	AC7150+		AC7300+	
Part number	019-00480R	019-00468R	019-00481R	019-00470R
LED Peak Wavelength	365 nm	395 nm	365 nm	395 nm
LED Estimated L70 Life	> 20,000 hrs.	> 40,000 hrs.	> 20,000 hrs.	> 40,000 hrs.
Peak Irradiance @ 1 mm	> 7.0 W/cm^2	> 7.5 W/cm^2	> 7.0 W/cm^2	> 7.5 W/cm^2
Variable Intensity Range	20 – 100%			
Working Distances	10-30 mm			
Active Optical Area	15 x 152 mm		15 x 304 mm	
Longitudinal Uniformity	Better than ± 5%			
Operating Voltage	48V DC ± 2V			
Maximum operating Current	10.4 A	10.1 A	20.7 A	20.1 A

Table 5 UV LED Head Specifications

11. Regulatory Compliance

11.1. PRODUCT SAFETY AND ELECTROMAGNETIC COMPATIBILITY:

The AC7^{+} systems have been tested and found to comply with product safety and electromagnetic compatibility requirements. For a complete list of tests and certification details, please contact your OmniCure representative.

11.2. CE MARKING

Council Directive 2014/35/EU	Low Voltage Directive	CE
Council Directive 2014/30/EU	EMC Directive	
Council Directive 2012/19/EU as amended by (EU) 2024/884	WEEE Directive	
Council Directive 2011/65/EU as amended by (EU) 2015/863	RoHS Directive	

This is a class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

11.3. FCC CLASS A DIGITAL DEVICE OR PERIPHERAL

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense.



WARNING
Changes or modifications not expressly approved by Excelitas could void the user's authority to operate the equipment.

11.4. CHINA ROHS



The symbol above indicates that this product is in compliance with China RoHS requirements.

Part Name	Hazardous Substances									
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent Chromium (Cr (VI))	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDE)	Dibutyl phthalate (DBP)	Di isobutyl phthalate (DIBP)	Butyl benzyl phthalate (BBP)	Bis(2-Ethylhexyl) phthalate (DEHP)
Printed circuit board assemblies	X	O	O	O	O	O	O	O	O	O

This table is prepared in accordance with the provisions of SJ/T 11364-2024.

O: Indicates that the content of the hazardous substance in all homogeneous materials of the component does not exceed the national standard requirements for the restricted use of hazardous substances in electrical and electronic products.

X: Indicates that the content of the hazardous substance in at least one homogeneous material of the component exceeds the national standard requirements for the restricted use of hazardous substances in electrical and electronic products.

Note: For components not listed above, it means that the content of their hazardous substances does not exceed the national standard requirements for the restricted use of hazardous substances in electrical and electronic products.

(Enterprises can further explain the technical reasons for marking "X" in the above table here according to actual conditions.)

部件名称	有害物质									
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr(VI))	多溴联苯 (PBBs)	多溴二苯醚 (PBDEs)	邻苯二甲酸二正丁酯 (DBP)	邻苯二甲酸二异丁酯 (DIBP)	邻苯二甲酸丁苄酯 (BBP)	邻苯二甲酸二(2-乙基)己酯 (DEHP)
印刷电路板组件	X	O	O	O	O	O	O	O	O	O

本表格依据SJ/T 11364-2024的规定编制。

注1：O: 表示该有害物质在该部件所有均质材料中的含量均不超出电器电子产品有害物质限制使用国家标准要求。

X: 表示该有害物质至少在该部件的某一均质材料中含量超出电器电子产品有害物质限制使用国家标准要求。

注2：以上未列出的部件，表明其有害物质含量均不超出电器电子产品有害物质限制使用国家标准要求。

（企业可在此处，根据实际情况对上表中打“X”的技术原因进行进一步说明。）

11.5. WEEE DIRECTIVE



1. The symbol above indicates that this product should not be disposed of along with municipal waste, that the product should be collected separately, and that a separate collection system exists for all products that contain this symbol within member states of the European Union.
2. The equipment that you bought has required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment.
3. To avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems. Those systems will reuse or recycle most of the materials of your end life equipment in a sound way.
4. The crossed-out wheeled bin symbol indicated above invites you to use those systems.
5. If you need more information on the collection, reuse and recycling systems, please contact your local or regional waste administration.

12. Warranty

Excelitas warrants the original purchaser for a period of one (1) full year, calculated from the date of purchase, that the equipment sold is free from defects in material and workmanship.

In the event of a claim under this warranty, the equipment is to be sent postage and carriage paid to the Excelitas Service Centre. Returned equipment will not be received without a Return Authorization (RA) Number, issued by the appropriate Service Centre.

For us to serve you better, include a written description of the fault and the name and telephone number of a contact person who may be contacted for additional service-related questions.

Any claims for units received with defects in material or workmanship must be reported to an authorized Excelitas Service Centre within 30 days from the original date of receipt and returned within 30 days of reporting to an authorized Excelitas Service Centre. Excelitas will repair or replace these reported defects free of charge. The equipment must be sent postage and carriage paid.

Package the equipment in its original shipping case, or as appropriate, to prevent damage during transport.

In the case of damage caused by wear and tear, careless handling, neglect, by the use of excess force, or in the case of interventions and repairs not carried out by an Excelitas Authorized Service Centre, the warranty ceases to be valid. This warranty may not form the basis for any claims for damages, in particular not for compensation of consequential damages.

This warranty is not transferable.

No warranty is extended to perishable items (if purchased separately or included in systems). These may include but are not limited to air filters and cables.

****WARNING****
Apart from filters, there are no field serviceable parts within the equipment. Opening the equipment main enclosure will void the warranty.

12.1. CHECKING LAMP HOURS

Level transitions on pin 14 of the PLC interface can be used to access the UV LED warranty status information:

Pin #	Description	I/O	Behaviour
14	Clear fault/ LED hours	In	0V to 0.6V (Open) Logic Low 2.4V to 24V Logic High Low-to-High transition = LED hours

Table 6 UV LED Warranty Status

You can also check the status by pressing the Clear Fault button on the PLC Controller. On release of the button the warranty status is indicated on the status indicator on the UV LED head.

The LED indicator on the UV Head will display the warranty status of the UV LEDs as follows:

LED Indicator	Condition
Fast Flashing Green	Operating hours < 9000
Fast Flashing Amber	Operating hours = between 9,000 and 10,0000
Fast Flashing Red	Operating hours >10000

12.2. REPLACEMENT UV LED MODULE WARRANTY

If the AC7⁺ system fails to power up during the warranty period of 10,000 operational hours or 2 years, whichever comes first, the UV LED Module will be replaced under warranty. In the event of a claim under this guarantee, the UV LED Head is to be sent postage and carriage paid, including a description of the fault, to the nearest appropriate Excelitas Service Centre. Returned equipment will not be received without a Return Authorization (RA) Number, issued by an Excelitas Service Centre. This warranty is non-transferable.

In the case of damage caused by careless handling, neglect by use of excess force, or in the case of interventions and repairs not carried out by an Excelitas Service Centre to the AC7⁺ system, the guarantee ceases to be valid.

12.3. RETURNING YOUR AC7⁺ SYSTEM TO EXCELITAS FOR SERVICE

Please note the problem encountered, the steps followed to isolate the problem and the result of any troubleshooting steps taken.

Contact the nearest Excelitas Canada Service Centre to obtain a Return Authorization (RA) Number to complete repairs quickly and efficiently. In North America, request for a RA (Return Authorization) number from the website: https://www.excelitas.com/ox_service_request_form

Enclose details of the problem with the unit and return both to the Excelitas Canada Service Centre. The unit should be returned in its original packaging if possible. Do not ship the radiometer with the external sensor connected.

Include a phone number and contact person who may be reached for any additional service-related questions.

13. Contact Information

Excelitas Canada Inc.
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Mississauga, Ontario
L5N 6H7 CANADA

Tel.: +1 905 821-2600

Toll: +1 800 668-8752 (USA and Canada)

Fax: +1 905 821-2055

https://www.excelitas.com/omnicure-x-cite-inquiries

Technical Assistance:

techsupport@excelitas.com

https://www.excelitas.com/ox_service_request_form

For a complete listing of Authorized OmniCure Distributors and Service Centres, please go to

https://www.excelitas.com/dealer-search