

OmniCure® AC7 Series: Quick Start Guide

Warning – Refer to Safety Precautions Booklet 035-00636R for all safety precautions prior to use. User Guide 035-00540R:

<https://www.excelitas.com/product/omnicure-ac7-led-large-area-uv-curing-system>

SETUP / Unpack

- Carefully unpack the unit and accessories from shipping carton.
- When removing the LED Head, ensure that the optical window is not placed directly on a surface to avoid any damage.

1.1 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. These may be sourced separately or may be purchased from Excelitas Technologies

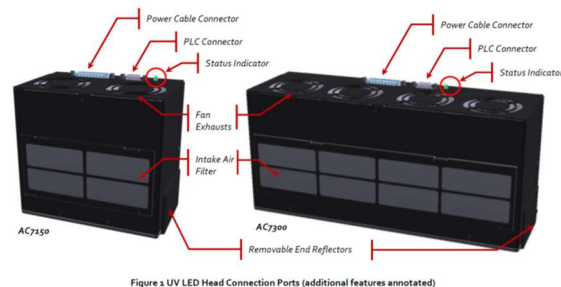
1.2 Connecting the Power Supply and PLC Controller

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. 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
2. Attach the male end of the PLC cable to the UV LED Head (see Figure 1).
3. Make sure the power supply unit is turned off.



4. If using an Excelitas PLC Controller connect the PLC loop-back connector to the PLC pass-through port

1.3 Powering Up and Powering Down

1. Ensure that the AC7- system has been properly installed and the UV LED Head is securely mounted with the optical window in the desired orientation.
2. Verify that the power supply unit’s AC supply cord is connected to a properly grounded AC outlet.
3. If the power supply has a circuit breaker, switch it to the “ON” position.
4. Turn the main power switch of the power supply to the “ON” position and check the fan for airflow.
5. 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 0, “

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 down (approx. 5 min) or use protective gloves.

1.4 Using the LED Head



The peak wavelength of the UV LED Head is 365nm or 395nm +/- 5nm, depending on model.

For all models, adjusting the UV LED Head intensity can be actuated by an external controller via the PLC interface. Refer to Section 6 for Pin-Outs.

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 back to a steady green indicating UV is off.

The UV LED Head is capable of responding to PLC control signals in less than 0.2 seconds.



1.5 Understanding the LED Indicators

LED Indicator	Condition
Steady green	System Ready; no critical faults
Steady amber	UV LED turned ON
Steady red (~1x/second)	Critical fault <ul style="list-style-type: none"> • Temperature Fault • LED Fault • System Error
Slow flashing green (~1x/second)	POST and Initialization Input voltage is less than 46V or greater than 50V. Unit is still functional.
Slow flashing red	Major or 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 10,000
Fast flashing red	Warranty status - operating hours is >10000

Table 1 LED Indicator Status (UV LED Head)

1.6 Symptoms and Possible Causes

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 9.3, "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 points, please contact Excelitas Technologies Service Department (refer to Section 12, "Contact Information").

REGULATORY (refer to user guide for complete details)

Product Safety and Electromagnetic Compatibility

The OmniCure AC7 Series has been tested and found to comply with product safety and electromagnetic compatibility requirements. For a complete list of tests and for certification details, please contact your OmniCure representative or visit:

<http://www.excelitas.com/Pages/Product/OmniCure.aspx>

CE Marking



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



WEEE Directive



China RoHS



RoHS



FCC