

UVD Electrical Considerations

Electrical Installation Notes

- To reduce risk of electrical shock this system must be grounded. Connect your UV system to a grounded, GFI protected (3 pronged) receptacle (120V, 60HZ) and ensure that the lamp connector ground wire is connected to the ground stud on the top of the disinfection chamber. Remove the nut from the ground stud at the top of the unit. Next, place the ground wire (green wire with yellow stripe) over the stud and re-install nut and tighten. Failure to ground chamber may result in an electrical shock hazard and erratic UV sensor behaviour.
- To avoid possible electric shock, special care should be taken since water may be present near electrical equipment. Do not plug the unit in if any of the external surfaces or electrical parts are wet. Condensation on the disinfection chamber is normal.
- Do not operate this system if it has a damaged electrical cord or plug, is malfunctioning, or has been dropped or damaged in any way.
- If the AC power distribution system is subject to frequent power line surges or electrical storm activity, the installation of an external surge protection device is required. Preferably, the surge protection device will have an indicator showing that the surge protection components have not failed and the device should be checked frequently.
- If the water system in which the UV disinfection system is to be installed includes a pump, the UV disinfection system should not be connected to the same AC supply circuit as the pump. Pumps can create significant voltage drop on start-up which may be sufficient to trigger an abnormal operating condition alarm in the UV power source. In these cases connection of the UV disinfection system to an isolated AC supply will minimize nuisance alarms.
- If the installation location is subject to frequent power outages or brown out conditions an inverter type uninterruptable power system (UPS) device with true sine wave output should be installed on the AC supply to ensure reliable system operation.
- Ensure that the chosen power source location is not subject to any possible dripping of condensation from either plumbing or system components.

UV Power Source Features

The micro-processor controlled UV power source supplied has both audio and visual alarm indicators to validate lamp operation and an integral annual lamp change reminder timer.

A two digit display is provided to display the actual UV dose, lamp life remaining (when timer reset button is pressed), and various error codes to aid in system diagnostics. If the actual UV dose falls below 40mj/cm², the unit goes into the low UV alarm mode and the solenoid valve, if installed, will be de-activated.

UV power source initialization sequence: When AC power is applied to the UV power source the lamp is ignited, as indicated by the green lamp-on LED, after which a self test of the annual lamp failure LED and alarm buzzer occurs. This test consists of three buzzer beeps and three red lamp failure LED flashes. The two digit display indicates the actual UV dose. If a solenoid is connected to the UV power source, it will activate when the UV level reaches 40mj/cm².

Normal Operation: During normal operation, the green lamp-on LED is illuminated and the two digit display indicates the actual UV dose in mj/cm².

Diagnostic Display

Pushing the timer reset button on the UV power source initiates the diagnostic display and sensor self test function of the system. In sequence, the display will output the parameter followed by the parameter value;

- (lr) Lamp life remaining (weeks)
- (ul) UV level
- (tf) Disinfection Chamber temperature F0
- (tc) Disinfection Chamber temperature C0
- (fn) Cold Spot FanTM status 1=on 0=off
- (at) Alarm threshold – "C" for certified system
- **E7** if the sensor self test detected a sensor failure

Note: The diagnostic display does not function if a lamp failure condition exists.

Lamp failure: When the UV power source detects a lamp failure or enters the auto shut down mode due to abnormal operating conditions, the alarm buzzer sounds and flashes the red lamp failure LED, the green lamp-on LED and 2 digit display are extinguished. If connected, the solenoid valve will terminate the water flow.

Note: The UV power source is designed to shut down if the AC input voltage is outside of operating limits. When a lamp failure alarm is active, the unit should be unplugged from the AC power source for fifteen seconds and then reconnected to the AC power source. If the failure was due to out of limit AC power, the unit will re-ignite the lamp and operate normally.