

## ANALOG UV MONITORING SYSTEM – OPERATION, CALLIBRATION & MAINTENANCE

The UV monitoring system uses a single sensor to read the relative UV output of a single lamp. The output is displayed by a needle that ranges from 0 – 100%. The system should be set to 100% with new lamps and with running water. This should be done with each new lamp change and done after the initial one hundred (100) hour burn in.

The output is relative and is not traceable to standards and should be used as a tool for system maintenance.

### Installation and Calibration

The following items have been integrated and are required for operation. Please insure that all items are provided and in their appropriate places.

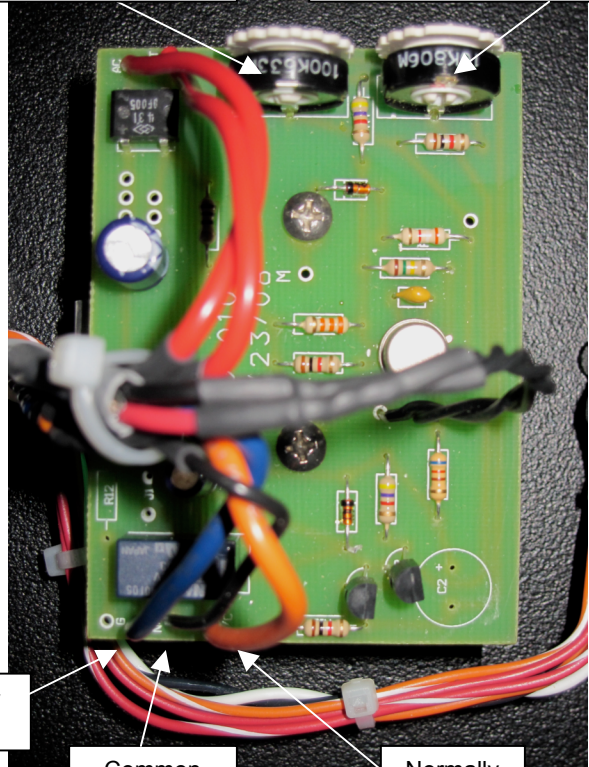
- a. UV Sensor with connector pigtail
- b. Sensor glass to protect sensor from water
- c. O-ring to seal
- d. Analog meter
- e. Electronics with adjusting wheels

Once located and checked, the manufacturer recommends the following:

- a. Find the UV sensor port located on the vessel. If the port is closed with a cap or with the actual UV sensor, stop working. Insure that the vessel is not under water pressure. If it is, relieve pressure to inspect what is in the port.
- b. The port should be completely dried with a dry cloth. This will prevent fogging.
- c. Take the small o-ring and seat it firmly in the port. The glass window will be put on top.
- d. Take the small round window and carefully place it on top of the o-ring. Make sure not to get oils or dirt on the window. In many cases, the sensor is going to be located on the side. This will make it a little more difficult to place the window because it is going to want to fall out. Use the sensor to hold it in place.
- e. The sensor should be slowly pushed into until it compresses the window and the o-ring.
- f. Slide the retaining cap over the sensor (pulling pig tail through), and hand-tighten. Do not over-tighten because it will break the window.
- g. Plug the pigtail connectors into the corresponding connectors going to the power center.
- h. Power on the UV lights.
- i. Check to see if the analog needle is moving. If so, then proceed.
- j. Check the vessel to insure that all ports are secured and that all compression seals are tight.
- k. Fill the vessel with water and let the system warm up.
- l. View the analog meter to see if it is reading UV output.
- m. Adjust the output to 100% using the thumbwheels located on the back of the electronics located in the power control center.

Adjustment from 0-100%

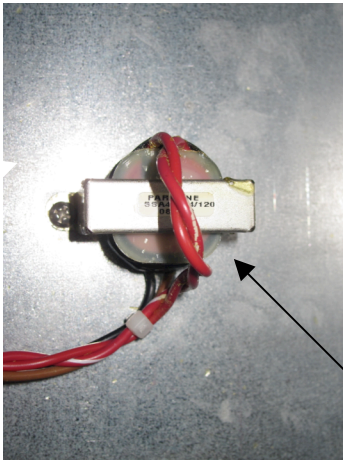
Sets the % that it signals a trip



Normally open

Common

Normally closed



110 Volt  
220 Volt optional

The UV monitoring system has been designed for simple operation. From time to time, you will need to perform maintenance to discover why your UV output is falling off.

Since there are many reasons, including:

- a. Old lamps starting to fall off
- b. Lamp failure
- c. Excessively hot or cold water
- d. Dirty water impacting transmission
- e. Dirty quartz sleeves
- f. Cracked sensor quartz window (allows moisture into the sensor and a potential leaking situation)
- g. Broken sensor

It is important to understand how the system operates. It is also important to understand which replacement parts are required.

The system is not NIST traceable, does not provide output in  $\mu\text{Ws}/\text{cm}^2$  and does not provide for remote monitoring via a 4-20mA output. These more sophisticated requirements are available in our higher end models.

The system does provide dry contacts in the form of normally open and normally closed contacts. These can be used to trigger an alarm or control a solenoid valve. To be used effectively, you will need to set the trip wheel to a point where you want it to alarm (usually at 70%).

#### UV MONITORING PARTS:

Sensor Glass	E-1000SW
Sensor O-ring	M-70112O
UV Sensor	E-10MSRS
Meter Face Plate	E-833MSF
Meter Electronic Board	E-10MSRB
Black Retainer Cap	M-1058SC