# UV & Temp. Monitoring System

Aquafine Corporation High Performance Ultraviolet Systems

Aquafine's UV & Temperature Monitoring System will accurately monitor UV intensity and process water temperature of your existing UV system, with the option of certified NIST traceable calibration. This design improves reliability and performance accuracy in one advanced monitoring technology system.

Component cost savings and improved liability protection are some of the key benefits featured with this cutting edge technology. The UV & Temperature Monitoring System detector employs a Silicon Carbide (SiC) photodiode and a semiconductor temperature sensor in a single package. The controller, utilizing on board electronics, can be either fixed or mounted remotely for operation. Available for:

- Optima HX
- SCD/H
- CSL
- RBE
- Skid Systems

# Advantages

- Optional NIST Traceable UV Detector Calibration with Certificate
- Withstands Non-Operating Temperatures of 250°F (121°C) for Steam Sterilization at a Max Pressure of 100psi (6.9bar)
- Irradiance & Percent Readout Options



Remote UV & Temperature Monitoring System





### UV & Temperature Monitoring System Technical Data

#### Description:

The UV & Temperature Monitoring System consists of a monitoring station, with onboard electronics, and the UV & Temperature Detector. Remote kits are optional for all models and retrofit kits are available for the Aqualogic, RBE and CSL series models.

## UV Monitoring Station Specifications:

DISPLAY	4.5' X 0.5" Digit LCD Display	
DISPLAY IRRADIANCE RANGE	0-5,000 µW/cm²	
RESOLUTION	1 µW/cm <sup>2</sup>	
ACCURACY OF CALIBRATION	±10% OR ±2 WHATEVER IS LARGER (OPTIONAL NIST TRACEABILITY)	
DISPLAY TEMP. RANGE °F (°C)	32-212 (0-100)	
RESOLUTION °F (°C)	0.1 (0.1)	
ACCURACY OF CALIBRATION °F (°C)	±2 (±1)	
DISPLAY PERCENTAGE RANGE	0-100.0% (FIXED POSITION SWITCH FOR RELATIVE INTENSITY OR IRRADIANCE)	
RESOLUTION	0.1%	
100% ADJUSTMENT RANGE	10-5,000 µW/cm <sup>2</sup> (MULTI-TURN POTENTIOMETER WITH 0.1% RESOLUTION)	
OPERATING TEMPERATURE °F (°C)	32-122 (0-50)	
OPERATING HUMIDITY	90% RELATIVE HUMIDITY (RH)	
INPUT POWER VAC (Hz)	115/230 ±10% (50/60)	
UV OUTPUTS	0-1 VDC (25 OHM MIN LOAD RESISTANCE; TERMINAL BLOCK; 1 VDC OUPUT CORRESPONDS TO 100% OF RELATIVE IRRADIANCE LEVEL); 5 V MAX OUTPUT	4-20 mA DC (1 KOHM MAX LOAD RESISTANCE; TERMINAL BLOCK; 4 mA CORRESPONDS TO 0% OF RELATIVE IRRADIANCE LEVEL, 20 mA CORRESPONDS TO 100% OF RELATIVE IRRADIANCE LEVEL) 40 mA MAX; FLOATING OUTPUT*
ALARM INDICATION	BLINKING RED LED AND INTERRUPTING SOUNDER (SOUNDER TURNS OFF AFTER 30 SECONDS OF OPERATION OR IF UV IRRADIANCE RETURNS BACK TO NORMAL) SEPARATE LEDS FOR UV & TEMPERATURE ALARM	
UV ALARM PRESET	MULTI-TURN POTENTIOMETER (0-1% RESOLUTION; 20-100% OF THE USER DEFINED 100% LEVEL)	
LOW UV ALARM SETTING	SCREW DRIVEN POTENTIOMETER ACCESSED FROM FRONT PANEL, PROTECTED BY PLASTIC SCREW WITH O-RING	
TEMPERATURE ALARM PRESET LEVEL	THREE-POSITION SWITCH: 120°F ±2°F (+49°F) OR 170°F ±2°F (+76.7°C) OR OFF 20°F (6.6°C) HYSTERESIS	
SIZE (W x H x D) INCHES (MM)	6 x 3.5 x 1.5 (152 x 89 x 38)	

# UV & Temperature Detector Specifications:

CALIBRATION DATE TODIODE nm	
rodiode nm	
nm	
AQUALOGIC OUTPUT: 0.5 V/mW/cm <sup>2</sup>	
PRECISION INTEGRATED CIRCUIT	
W/°F	
32-176°F (0-80°C) WITHSTANDING NON-OPERATING TEMPERATURES IN EXCESS OF 250°F (121°C) FOR STEAM STERILIZATION AT 100psi (6.9BAR) MAXIMUM PRESSURE	
STEEL 316L	
(3)	
OPTIONAL OF UP TO 30 (9) MAXIMUM	

\*4-20mA UV intensity signal from the UV monitoring station is a non-isolated floating output per Type 4, Class U device standard of ISA-50.1-1992. Corresponding PLC should have an input supporting that standard. Negative ("") side of the 4-20mA signal input of the customer's PLC should not be connected to the ground. Use of a signal isolator is strongly recommended if there is any signal incompatibility issue between the 4-20mA UV intensity signal output of the UV monitoring station and the customer's PLC input.





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