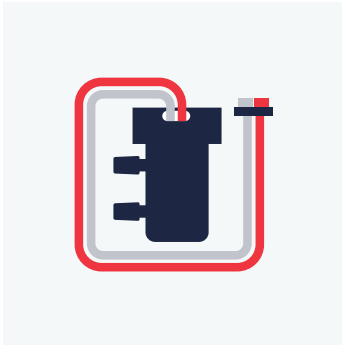
Klaran® WR Series UVC LED Reactor

Part: WR2-24V-2U-A1



QUALITY DISINFECTION ON-DEMAND

Capable of providing 4 Log Reduction of pseudomonas aeruginosa at a flow rate of 2 liters per minute.

LONGER LIFE AND HIGHER RELIABILITY

On-demand Klaran UVC LEDs provide optimal useful lifetime, reduced energy consumption, and a replacement cycle that matches your business needs.

ECO-FRIENDLY AND COST-EFFECTIVE

Klaran WR is a mercury-free, chemical-free, and effluent-free solution for point-of-use water treatment systems, and ensures water quality for less than one quarter of a penny per liter dispensed.

Inlet Water Specification

Specification	Unit	Min	Typ	Max	Note
Flow Rate	LPM	0.5		3	
UV (265 nm) Transmittance	%/cm	95	97	-	
Water Temperature Range (LED ON)	˚C	5	–	45	Freezing of water must be prevented
Water Temperature Range (LED OFF)	˚C	5	–	85	
pH	pH	5.8	–	8.6	

** Note: Acceptable UV (265 nm) Transmittance of water for the Klaran WR can be achieved with most carbon filtration or similar filtration media options.*

Electrical Characteristics

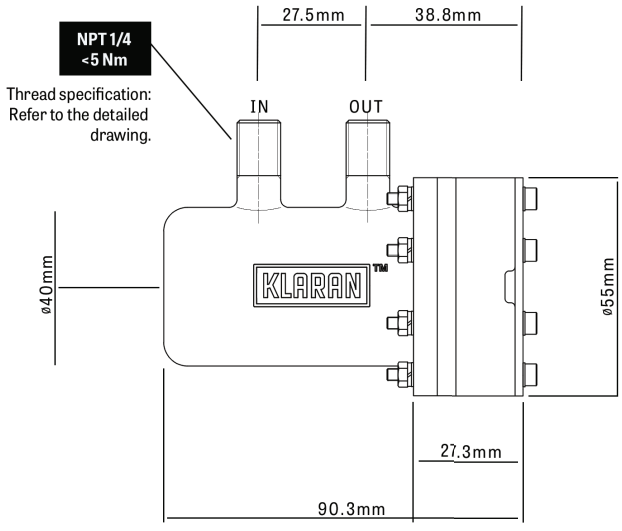
Characteristic	Unit	Min	Typ	Max	Note
Power Input Voltage (VCC)	V	22.8	24	25.2	Constant DC Voltage
Power Consumption (LED ON)	W	–	8	–	
Power Consumption (Stand By)	mW	–	80	–	
ENABLE Input Voltage	V	–	3.3	3.5	CMOS
Alert Indicator Output Voltage	V	–	3.3		CMOS
Maximum Operation Time Without Water Flow	Minutes	–	–	2	
Maximum Recommended Stand By Time	Years	–	–	7	

** Note: Service life of LED ON and Stand By states are dependent on installation use case and performance needs for the Klaran WR. Please consult with Klaran Applications Engineering for specific project needs.*

Physical Characteristics

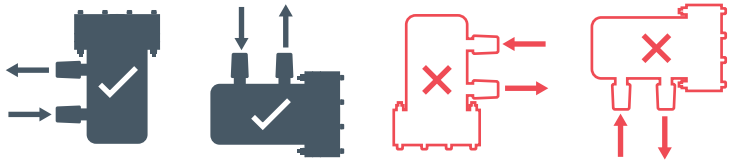
Characteristic	Unit	Min	Typ	Max	Note
Weight	Grams	–	280	–	
Internal Water Volume	ml	–	36	–	
Ambient Temperature Range (LED ON)	°C	5	–	50	
Ambient Temperature Range (LED OFF)	°C	5	–	85	
Relative Humidity	%	40	–	75	
Pressure Loss	kPa	–	–	15	@ 2LPM
Pressure Resistance	MPa	–	–	0.7	
Pull Strength of Cable	gf	350	–	–	
Torque Strength of Water Inlet/Outlet	N*m	–	–	1.5	

Mechanical Dimensions



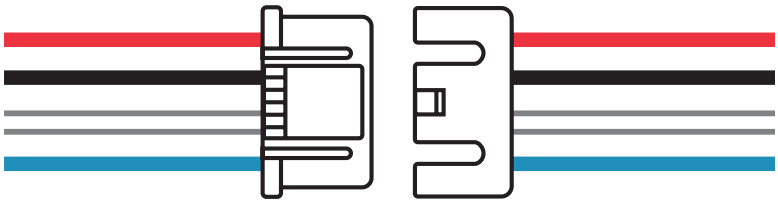
Installation Orientations

Designs incorporating Klaran WR should use the reactor in one of the two acceptable orientations to ensure performance meets specifications. Failing to do so may result in inadequate disinfection performance or damage to the Klaran WR.



Correct Incorrect

Wiring Diagram



Wire Length: 30cm
Klaran WR: #XHB-4Y (comparable to Molex Female #0355720400) External Connection: Molex Male #0353120460

Wiring Specifications

Name	Direction	Note
VCC (Red)	Input	DC24V required
GND (Black)	GROUND	
ENABLE (White)	Input	3.3V CMOS HIGH to enable LED output
INDICATOR (Blue)	Output	3.3V CMOS LOW Alert signal for LED OPEN/SHORT or PCB over temperature. LED output disabled during Alert Scenario.

** Note: Ground reference for VCC and ENABLE must be common to avoid signaling errors.*

Indicator Logic Table

Scenario	ENABLE=High	ENABLE=LOW
LED OPEN Alert	LOW	LOW
LED SHORT Alert	LOW	LOW
HIGH TEMPERATURE Alert	LOW	LOW
No Alert	HIGH	LOW

** Note: LED Operation is prevented during LED OPEN, LED SHORT, and HIGH TEMPERATURE Alert Scenarios*

** Note: Alerts may be reset by power cycling the Klaran WR and assuring water and temperature characteristics are within specifications. Continued Alert Signals may require a cool down of up to 30 minutes and contacting Klaran representatives if the Alert Signal persists after cool down.*

Handling and Operation Precautions

The Klaran WR contains microelectronic components sensitive to shock, moisture, and operation in conditions beyond stated maximums. Care should be taken in handling the Klaran WR during shipping, handling, installation, and operation.

The Klaran WR is ESD (electrostatic discharge) sensitive; static electricity and surge voltages seriously damage internal components and can result in product failure.

- Ensure that tools, jigs and machines being used are properly grounded and do not exert excessive force upon the Klaran WR.
- Use proper ESD protection, including grounded wrist straps, ESD footwear and clothes when handling the Klaran WR.
- Dropping the product may cause damage. Drops from over 30 cm will cause permanent damage.
- Pre-filtration should be used before the Klaran WR that can assure inlet water is of sufficient quality to meet required specifications. Operating without pre-filtration may lead to a reduction of disinfection performance or damage to the Klaran WR.
- The Klaran WR should be filled with water during LED ON operation. Operating the Klaran WR dry for extended periods may cause permanent damage.
- The Klaran WR should not be modified or disassembled in any way. Doing so may result in damage, hazardous operation conditions, and Ultraviolet (UV) light exposure hazards.
- Ensure circuit power is off before connecting Klaran WR.

WE INVITE YOU TO LEARN MORE ABOUT OUR UVC LEDs.

KLARAN®

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