DIN Rail UV Intensity Monitor

The DIN Rail UV Intensity Monitor is an on-line, electro-optic instrument designed for monitoring a single UV lamp. The system consists of an electronic signal conditioning module and a UVISENSOR. The rail into which each module can be clamped can be mounted anywhere on the equipment. Each module snaps onto the rail allowing for multiple units to be installed in a compact area.

Introduction

To get good curing results consistently, it is important to know when to replace the lamps. If the lamps are only replaced at set time intervals, they may be replaced too soon or too late. Money is wasted if the lamps are still good. Product is wasted if the lamps are overdue for replacement. The human eye, unable to detect UV light, must rely on an instrument designed to monitor only UV within a specific bandwidth. An intensity monitor with a specific sensor will detect the output of a UV lamp continuously.

The DIN Rail UV Intensity Monitor is an on-line, electro-optical instrument designed to track a single UV lamp. The system consists of a signal conditioning module and a sensor. The module snaps into a DIN type rail which, in turn, can be mounted on the UV system. Because of the module's size, many of them can be installed in a small area.

The DIN Rail UV Intensity Monitor can be used in integrated monitoring and control systems with analog signal processing and shared display capabilities.

Each module is designed to give the user information regarding the lamp's relative UV output. Then analog output is an industry standard signal compatible with any data acquisition system, integrated control system, or distributed control system.

The sensors work with mercury vapor, electrodes, deuterium, or any lamps which produce UV light. Sensors are ordered with 250-260nm; 280-320nm; 320-390nm; or 395-445nm spectral responses, and they come with 10' cables (custom lengths are available).

The user also has the use of two relay circuit connections. If the UV lamp's intensity goes below a set intensity, these outputs will switch in an indicating circuit of the user's design.

Installation

The DIN Rail Mount UV Intensity Monitor is easy to install. The DIN rail can be mounted practically anywhere around or on the UV system and the module simply snapped onto it. Each sensor is permanently mounted to the system to receive light from the UV source. Mounting hardware for the sensor is supplied to make installation easier. Once the module and sensor are installed, the electrical connections are made via a convenient terminal strip in the module.

Operation

First, the user sets the module's output to reflect 100% UV intensity when the lamp is new and the irradiator is in optimal condition. The Alarm Set Point is then adjusted to a level the user determines. If the UV goes below this level, the relay outputs trigger. These outputs activate an external alarm.

Features:

- Continuously monitors output of a single UV lamp
- 0 to 10 volt analog output
- Relay output connections
- Snap-in DIN rail mounting convenience

Solutions are our business

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Applications:

- Monitor UV lamp intensity
- Reliable lamp replacement indicator
- Indication of when to clean lamp irradiator
- Process control measurement
- SPC and ISO-9000 Data Collection

Specifications:

DIN RAIL MOUNT UV INTENSITY MONITOR	
Power Source	20 – 28 VAC or DC at 70mA maximum
Output	0 – 10 Volt DC – proportional to UV intensity
Accuracy	Typically within +/-3% as compared to full scale (10 volts) Relay Trip Point: Typically within +/-5% from threshold setting as compared to full scale
Overall Dimensions	3.11"W x 2.56"H x 0.98"D (7.90cm x 9.04cm x 2.49cm)
Weight	3.6 oz (101 grams)
Operating Temperature Range	0 – 50 degress C
UVISENSOR	
Dimensions	¾" OD x 1 ½" long (1.91cm x 3.8cm)
Spectral Range	250-260nm; 280-320nm; 320-390nm; or 395-445nm
Material	Aluminum Housing
Weight	4 ounces (113 grams)
Cable	Teflon insulated, shielded, 10' (3 meters) long
Connector	Tinned leads for DIN Rail Mount UV Intensity Monitor
Temperature Range	Sensor: 0-75°C Sensor Cable: -55°C to 200°C
COMPACT SENSOR	
Dimensions	0.57 x 1.09 x 0.92(inches) 1.45 x 2.77 x 2.34(cm) Sensor Housing
Spectral Range	250-260nm; 280-320nm; 320-390nm; or 395-445nm
Material	Aluminum Housing
Weight	.8 ounces (22.68 grams)
Cable	Teflon insulated, shielded, 10' (3 meters) long
Connector	Tinned leads for DIN Rail Mount UV Intensity Monitor
Temperature Range	Sensor: 0-100°C Sensor Cable: -55°C to 200°C

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