APPLICATION NOTE

CAS DATALOGGERS

Preserving History with The Saint Louis Art Museum

Understanding Premature Deterioration

Art enables people to better understand both the past and the present, and museums are critical for providing this valuable resource. Monitoring the environmental conditions in which the artwork is stored or displayed is key to the success of any art museum. The Saint Louis Art Museum understands this as well as anyone—its mission is to collect, present, interpret, and conserve the highest quality works of art. To fulfill this mission, the Saint Louis Art Museum monitors the exhibition and storage areas for its art with the highest degree of accuracy using TandD data loggers. Many materials in the museum, including fabric, canvas, paints, and plastic must be constantly monitored, with special consideration for pieces that are more susceptible to damage. These proper preservation practices are critical for minimizing the premature deterioration of precious art.

The Saint Louis Art Museum knew it could get rough estimates of deterioration by spot reading, but this approach fails to provide accurate readings of long-term effects. Rather than spot-checking and monitoring with light meters, the museum needed a solution that could actively monitor accumulated exposure to key environmental conditions in real time. These conditions include illuminance, UV, temperature, and humidity— all of which can lead to the deterioration of art. By monitoring these

conditions with a real-time, four-in-one data logger, the museum not only manages the conditions to better preserve its artwork, but it can also provide more comprehensive information to lending institutions during the time their works are on view or in storage. This hard data could be the difference between securing a piece of art or losing it to another museum.

Recently, the museum expanded and they were looking for a solution to work in a newly built wing that's lit primarily by daylight where it faced the challenge of preserving its art despite high levels of sun exposure. Additionally, it needed an unobtrusive data logger that was compact, had wireless connectivity and comprehensive light monitoring functionality.

Improving its Process with TandD:

To address its challenges, the Saint Louis Art Museum decided to work with T&D Corporation to find the proper four-in-one solution to monitor environmental exposure. The museum purchased 50 wireless TandD RTR-574 loggers which measure illuminance, UV intensity, temperature, and humidity. The RTR-574 logger has an illuminance measurement range from 0 to 130 klx, a UV monitoring range of 0 to 30mW/cm2, a temperature measurement range from 0 to 55°C, a humidity measurement range from 10 to 95 percent RH. It maintains an internal accumulated total of light and UV exposure, yielding readings of lux-hours and milliwatts per square centimeter hour. The RTR-574 can store up to 8,000 data sets with logging intervals from one second to 60 minutes, allowing the Saint Louis Art Museum to keep thorough preservation records. The data loggers can wirelessly transmit the data to a centralized base station data collector up to 500 feet away. From there data is automatically uploaded to T&D's free cloud-based WebStorage Service, where it can be viewed at any time on via a web browser or mobile device. Data, both real-time and historical, from multiple loggers, are viewed simultaneously, and email alerts can be configured to provide notifications to multiple users if a measurement goes out of range.

These features give conservation professionals peace of mind by ensuring art is safe at all times.

"Because some of these works are sensitive, small differences can add up quickly if something isn't right. We sleep better at night knowing we have TandD data loggers for our artwork."
– Claire Winfield, Art Conservator, Saint Louis Art Museum

Benefits

By using T&D's RTR-574 logger, the Saint Louis Art Museum was able to effectively account for variable light levels due to the museum's daylight lighting. The loggers enabled the museum to view the total light exposure for each piece of art and assess how it relates to the single value standard listed in conservation literature. Because all data can be accessed wirelessly from PCs and mobile devices through T&D's free WebStorage Service, museum employees don't need to directly connect to the loggers to collect data. The completely automated readings provide the museum with an essential record of all conditions, allowing the Saint Louis Art Museum to best preserve its art and present more thorough and accurate data to its lenders more effectively than ever.

This Application Note has been adapted from an article written by TandD. TandD is the manufacturer of the RTR-574, an ideal museum environmental monitoring solution.

For more information on the TandD RTR-574 data logger, or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.