

Climate monitoring in museums and archives using the **testo Saveris** measurement data monitoring system.



Each person has his/her own personal feel-good temperature – and most objects in museums and archives do too. But unlike us, paintings, sculptures or antique books cannot adapt, and always depend on establishment of the appropriate ambient climate. Whether it's a question of exhibition or storage – indoor climate and air quality are the key factors for private and public museums, collections,

libraries or archives when it comes to safeguarding the preservation of their valuable exhibits or archive materials. The testo Saveris measurement data monitoring system will help you establish the ideal climatic conditions for your objects of art, thus protecting them from mould, corrosion or deformation.



The challenge.

Objects of art are often extremely sensitive to changes within their immediate environment. Changing temperature conditions, accompanied by rising or falling humidity, may cause permanent changes or lasting damage to these valuable exhibits. Heated room air that is too dry can place just as much stress on valuable goods as the humid, sultry climate of midsummer. However, factors such as illuminance or exposure to dust also have a negative impact on the durability of works of art and documents. This is aggravated by the fact that there is no optimum climate for all pieces of art, because the pivotal factor here is always the specific material composition of each work of art.

Humidity has a greater impact on the durability of your objects of art and artefacts than temperature does. An appropriate level of humidity is therefore vitally important for the long-term preservation of sensitive exhibits. Organic materials such as leather, parchment, paper or wood are hygroscopic – i.e. they interact closely with the humidity. Moisture is extracted from them when the air is too dry, meaning that they lose weight and shrink. When the ambient air is humid, the reverse happens. Changing climatic conditions mean that the objects of art are in constant motion, hence it is only a matter of time until a canvas rips or the paint on the baroque sculpture peels off. But even objects made from inorganic materials, e.g. metal or ceramic, may suffer damage due to unfavourable or constantly changing ambient humidity.

Climate-related damage usually goes unnoticed at first, since the initial cracks and fissures in the material are so fine that they cannot be perceived with the naked eye. Once the damage becomes evident, the deterioration is obvious and costly restoration work is needed.

But the climatic requirements of pieces of art do not present the only challenge for those in charge: whereas climate control in archives can be perfectly adapted to suit the needs of the works of art and the artefacts, far away from the flow of visitors, in exhibition rooms the needs of the visitors and supervisory staff also need to be taken into account. Here, it is essential to create a climate that is pleasant for the visitors.

In this day and age, ever-increasing demands are placed on climate control with regard to energy efficiency as well. On the one hand it is necessary for the multiple public bodies responsible for museums to reduce energy costs, but at the same time the environmental impacts also need to be kept to a minimum.



Monitoring climate in a municipal archive.



Monitoring climate during the restoration of antique paintings.

The solution.

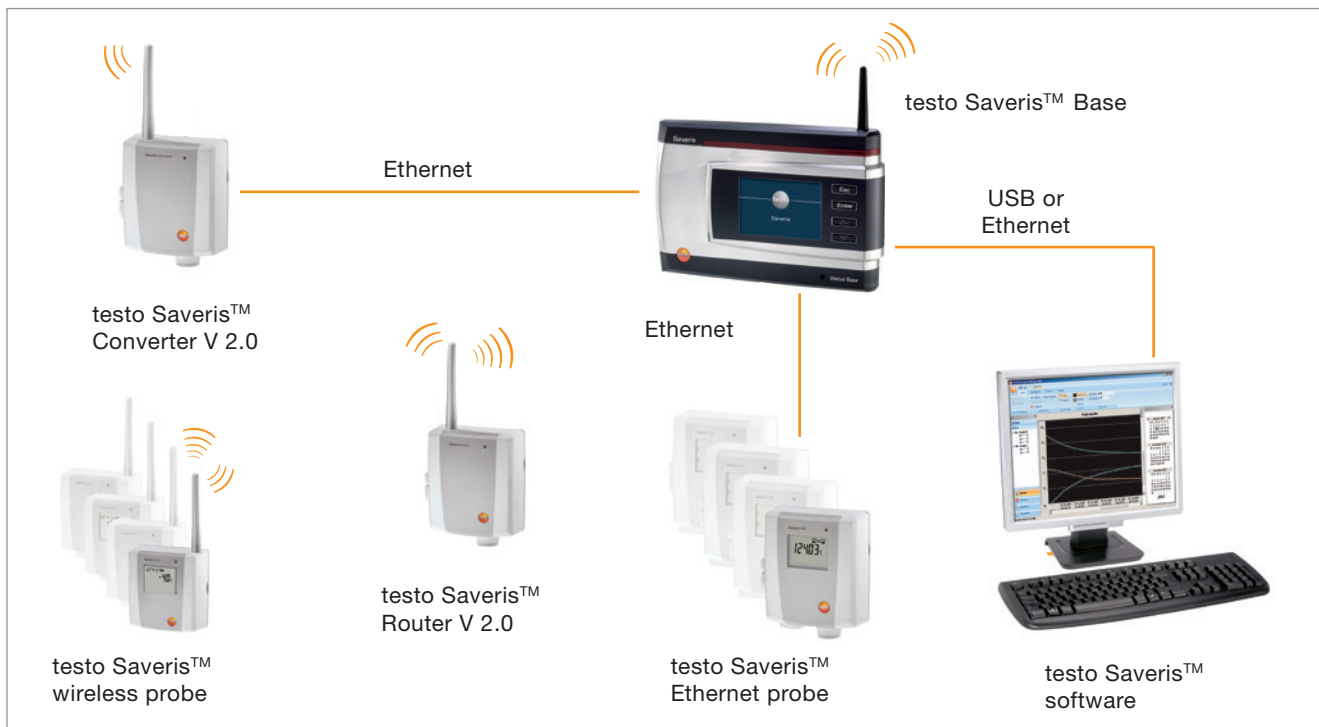
The testo Saveris measurement data monitoring system enables you to fully guarantee both the durability of your pieces of art and the energy efficiency of your climate control system. It assists you efficiently with the monitoring of temperature and humidity levels, so that you can protect your valuable objects of art from harmful fluctuations and provide your visitors with a pleasant indoor climate.

Measurement data is transferred via wireless and/or Ethernet probes to a base station. The base station monitors and documents all measurement data automatically. Not only does this save time, the complete data archiving means that you can also provide insurers or owners with evidence that the objects of art are completely safe. Depending on the condition and material composition of the exhibited artwork, you can set customised limit values for the temperature and humidity stresses.

If a limit value is violated, a whole range of alarm options are available: for example, you can be informed about the undesirable deviation via an SMS or e-mail alarm and an alarm relay. Remote alarms can even be given when the system is not connected to a running PC. Even if there is a power failure, with testo Saveris data recording functions without interruption, so that the safety of your valuable objects of art is never compromised.

The measuring points may be located in display cases and cabinets, in exhibition rooms, on/in/behind pieces of art or in storage rooms that are not open to the public. Measuring technology is usually required to be as discreet and inconspicuous as possible, particularly in areas frequented by the public. Since museums themselves are sometimes located in historic buildings which are subject to strict listed building regulations, it is not always possible to route cables. Its customisable wireless technology means that testo Saveris can be installed regardless of the existing infrastructure. The system can also be integrated easily into an existing network via Ethernet.

The base station can store up to 18 million readings. From here all data is immediately transferred to a PC and archived in a database. The testo Saveris software enables you to access readings within a central data archive whenever you need them. This means that you can carry out in-depth analysis and detailed evaluation of all measurement data recorded.



The measurement data monitoring system testo Saveris with its components.

testo Saveris – all the advantages at a glance

- Continuous, centralised monitoring of temperature and humidity levels
- System installation with no excessive cabling or damage to the building structure
- Comprehensive alarm management via SMS, e-mail or alarm relay
- Automated reporting system

More information.

For more information and answers to all your questions concerning climate monitoring in museums and archives at www.testo.com.



Measurement data monitoring system testo Saveris