

Data Logger (temperature & humidity, acceleration / vibration, pulses, electrical signals, climate)

One of the popular and wide spread applications of the data logger is temperature and humidity measurement. A very small device is easy to operate and the user can choose himself when to start the measurement and the interval - how often it should be taken, as well as to download the stored data to the computer (with the help of the special software) and work with it further. The information about the temperature and relative humidity can be even presented as a graph. The device can work from battery (it is often lithium one) and is resistant to water or contaminants influence (such as dust, for example). Data logger does not consume much power which is also one of its strong points.

Modern models of this device are wireless which means its operation becomes easier and the data can be transmitted directly almost immediately after the measurements are taken.

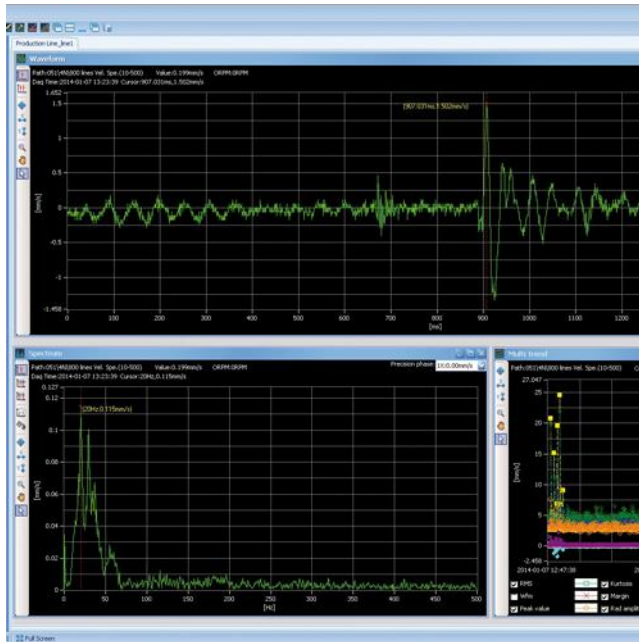
Many data loggers have got colorful screens where the data is depicted. The temperature range can be very wide, from minus temperatures to very high temperatures above zero. The measurement can come out in both, F or ° C. there is sensor inside the majority of the models, but very often the device has also got the exterior probe used for taking versatile temperature and humidity measurements connected with other measurements, as well as dew point.

The device can be used inside, for example, warehouses, green houses, different levels of the buildings, including basement and attic, various work and living areas.

One very interesting application field of the climate data loggers is investigation of the environment and its changes in caves. In reality there is a still a long way to go in the



climate studies and what factors influence it and which changes may happen in future. Caves are an interesting area for investigation as they have got their own



temperature and humidity conditions different from the outside weather conditions. Data loggers help to investigate the conditions inside the caves and to monitor the changes which happen (if any) when the weather outside changes. The advantage of data loggers used for that purpose is that they can continue working in close interaction with water, very high humidity, even in soil etc. taking the measurement there where it is difficult to put any other equipment.

High in the mountains, deep in the ocean, rainforests etc – these are all the places that are difficult to reach

but which are interesting for people. Man researches have been and many will be carried out in future. Small, but very robust climate data loggers help to get new knowledge about unknown things, to monitor the slightest changes in the climate, the interconnection between temperature, humidity, pressure, precipitation etc.

Data logger is a very big help when it is necessary to find out the best time for planting trees. The measurements can be taken regularly and to get an idea if the condition for growing are suitable or not, if the weather is stable or not, how much it changes and which and how often the fluctuations of temperature happen.

Data logger has become quite a competitor to the wired devices measuring acceleration and vibration. The advantage of this small and very easy to operate device is that it allows to catch the data very quickly. The frequency of vibration which the data logger can measure is very high, the measurement is taken in all three axes and sometimes it has got additional sensors allowing to measure temperature and pressure.

As a rule, the device is very small in size and light in weight, but has got a capacity to store huge amounts of data; the configurable software allows the users to decide themselves when to start the measurement, for how long to measure, it helps to analyze the data etc. This device is often used for the machinery monitoring.

After configuration (it can be adjusted to individual needs) it should be placed in the appropriate place and after it is started the device takes measurements. The results can be all later downloaded to the computer and analyzed.

Data Logger finds one more application field – that is reading electric signals. As it



can work separately from the computer and just store the data for a long time for later saving it on the computer the user has got a chance to get a precise picture of how much energy is consumed and to consider the possibilities for possible energy savings. With the help of that device the study of each particular energy supply can be carried out – that helps to bring the electrical supply in

balance, if it is not, diminish the risk of overload and in such a way avoid the possible electrical damages in future.