



PCE Americas Inc.
711 Commerce Way
Suite 8
Jupiter
FL-33458
USA
From outside US: +1
Tel: (561) 320-9162
Fax: (561) 320-9176
info@pce-americas.com

PCE Instruments UK Ltd.
Units 12/13
Southpoint Business Park
Ensign way
Hampshire / Southampton
United Kingdom, SO31 4RF
From outside UK: +44
Tel: (0) 2380 98703 0
Fax: (0) 2380 98703 9
info@industrial-needs.com

www.pce-instruments.com/english
www.pce-instruments.com

Government Weather Station

Weather is one of the factors that has a tremendous influence on life of people, but at the same time does not depend on humans much and is beyond our wishes. If many years ago weather prediction was based on observations and beliefs only, modern technologies make it possible to predict weather changes, precisely enough and in advance, so that there was enough time to prepare for some extraordinary changes or weather phenomena, like hurricanes, extremely high temperatures, excessive rains etc.

Weather forecast is not just a humble entertainment, on a state level, meteorologists from the authoritative organizations carry out serious studies and researches to improve the ability of prediction how, when, for how long and why the weather is going to change. A lot of equipment including data logger and modern sensors is applied for continuous monitoring of various weather parameters, including wind strength, speed and direction, air / soil / water temperature and humidity, pressure, possible precipitation (like, snow, hail).

Weather condition monitoring with the help of weather stations helps to track the change of climate and developing tendencies over longer time periods. Knowing the weather helps to assess certain regions and territories in the country and thus, changes on a state level may be made, for example, in an agricultural sector, like growth of particular crops, application of green-houses, introduction of supplementary irrigation systems, or on the contrary, cut of expenses on irrigation, if there are more and more rains in the region. Weather monitoring systems collecting information over longer time periods provide statics relating the average precipitation levels, temperature and humidity seasonal fluctuations, number of sunny days etc.

Weather monitoring systems are complicated measuring devices that are designed for application under various weather conditions, and thus, are robust and reliable. Datalogger carries out the measurements with subsequent data storage and transmission. In the systems of this level the measuring range for all the parameters is wide enough to apply them in any area. The units are often selectable and in each case the time intervals may be put into the program individually. Due to the software-based operation, no data is lost in the process of measurement and the information from all the sensors included in the weather system may be retrieved and transmitted to the PC, for further evaluation and assessment. A few stations may operate as network and the data collected from a few stations may be later analysed as a whole or each station may provide individual measurements.



In the modern world with ever growing debates around environment and global warming, the talks about energy saving and search for new sources of energy never cease, and thus, more and more attention is drawn to the solar energy. In many countries all over the world the solar panels

have become an ordinary installation, as well as wind mills. For the efficient operation of such expensive equipment weather monitoring is obligatory, and this is one of the fields where the weather stations find their application today. Such projects get a lot of attention from the government nowadays and the target is to make energy production in such a way as profitable as possible. Datalogging monitoring as part of the weather systems provides information about the best wind / sunny conditions, since it is impossible to predict how much sunshine or wind this or another area is going to get and when.



The development and distribution of many economical accents in the regions of the country pretty much depends on the climate and weather data, which can be acquired due to the weather stations. That is why some regions become areas with highly developed touristic infrastructure, some areas are selected as centres of agriculture with many fields for cultivation of various crops, the others are turned into densely populated regions with many new buildings and construction sites, but some remain unpopulated and for example appropriate only for forestry.

Having the information and statistics about weather changes helps to make a better budget planning and allocate sufficient finances for correct development of each particular part of the country. Besides, obtaining the information about coming storms, hurricanes, floods and similar natural disasters, allows taking measures of precaution beforehand in order to minimize the possible damage and losses in case of inevitable environmental cataclysms. Weather stations are installed nowadays in many countries with the purpose of prevention unbearable losses that happen because of unexpected weather change. For example, it allows carrying out better harvest time planning with the purpose of avoiding damage from the coming precipitation or heat.

On a governmental level, application of weather stations / weather monitoring systems has become a very helpful solution to many problems occurring because of sudden changes in weather. Aviation is a sphere that, besides, technical side and professionalism of the people working in it, depends on the weather situation tremendously.

Weather stations placed at different locations at the airports and around them provide



information about current as well as coming weather conditions, allowing the regulation of the flights operation accordingly to provide maximum safety to the crew and passengers and to prepare for the force majeure unplanned situations in advance and be able to handle them in the most efficient way.

Weather monitoring systems are a reliable supplier of information in winter, when extreme snowfalls and ice on the roads may cause highly dangerous alert situations on the roads. They are especially recommended in the mountainous regions, especially in the areas

of ski resorts. Timely warning about weather conditions changes and possible avalanches helps to save many lives of people who like spending their leisure in the mountains.

Extraordinary situations, occurring as a result of changes in normal and typical weather conditions, often cause a lot of damage to people, huge financial losses and economic problems: this may be extreme fires as a result of hot temperatures and droughts, tsunamis and hurricanes, alterations in the soil quality, drying of rivers and lakes, dramatic changes in flora and fauna and many others.

Application of highly-developed equipment, including data loggers and sensors for weather monitoring and meteorological studies provides a big amount of valuable data and information, indicating what is going on in the environment and what steps should be taken to stop undesirable changes and bring positive improvements in order to prevent climatic changes and ecological catastrophes.

