Upotreba mernih instrumenata na visinama većim od 2000m iznad nivoa mora

Šta se događa kada upotrebljavate merne instrumente na visinama većim od 2000m iznad nivoa mora ?

So-called reference conditions (ambient conditions) are specified in IEC/EN 61010-1, for example:

- Altitudes of up to 2000 meters
- Temperature range from 5 to 40° C
- Relative humidity of up to 80% (see also section 1.4 in IEC 61010-1)

These reference requirements apply to all entries, i.e. specifications, measuring categories and maximum values (voltage / current), if the manufacturer does not indicate any detailed deviations.

For example, an extended temperature range of down to -10° C is specified for our multimeters.

If an instrument is operated at altitudes of greater than 2000 meters above sea level, amongst other factors atmospheric pressure is lower, and temperature may be lower as well.

As a rule, electronic components such as processors, transistors, capacitors etc. are also specified for use in limited ambient conditions only. Amongst others, components containing fluids may be impaired at reduced atmospheric pressure levels. In particular batteries and LCDs would be affected in this case.

According to the manufacturers' specifications for LCDs and batteries included in our instruments, they're suitable for use at altitudes of greater than 2000 meters.

The only other consideration is the instrument's dielectric strength.

According to the standard, leakage paths in the instrument and its accessories must be multiplied by a certain factor, for example 1.48 at altitudes of 4001 to 5000 meters. For the user this means that in order to fulfill the safety requirements stipulated in the standard either the specified maximum measuring voltage would be reduced (e.g. from 600 to 300 V), or the measuring category would be decreased by one level (e.g. from CAT IV to CAT III).