VOLTCRAFT®

SCHIMMEL-HYGROMETER MS-10

COMFORT CONTROL DIGITAL THERMO-HYGROMETER

THERMOMÈTRE – HYGROMÈTRE DIGITAL COMFORT CONTROL

TERMO-IGROMETRO DIGITALE COMFORT CONTROL

DIGITALE THERMO-HYGROMETER COMFORT CONTROL

TERMO-HIGRÓMETRO DIGITAL COMFORT CONTROL

Best.-Nr. / Item No. / N° de commande / Bestnr.:
10 08 41

CE
VERSION 02/09

(GB) Instructions for Use

Dear customer,

with the purchase of this Voltcraft®Plus product, you have made a very good decision.

Thank you!

You have purchased an above-average quality product from a brand name family, which is outstanding in the filed of measuring, charging and network technology due to its special competence and permanent innovation.

With Voltcraft®Plus, even demanding hobbyists just like professional users will be able to perform challenging tasks. Voltcraft®Plus offers you a reliable technology at an unusually good price/performance ratio.

We are sure that your start with Voltcraft®Plus is at the same time the beginning of a long and successful cooperation.

We wish you lots of fun with your new Voltcraft®Plus product!

Features:

- Room temperature
- Indoor relative air humidity
- Maximum and minimum values
- Dew point
- Acoustic and optical alarm function in case of risk of mould

The electronic COMFORT CONTROL Thermo-Hygrometer is an ideal measuring instrument for checking room ambient conditions.

Excessive room-air humidity can damage your health and promotes the formation of damp patches and mould.

But excessively dry room air can also affect our well-being and health in various respects. Skin, mucous membranes and airways are adversely affected and pets, house-plants, wooden flooring and antique furniture may also suffer.

Active heating and ventilation can help achieve a comfortable and healthy living environment and may even save you heating costs.

The interaction of temperature and air humidity

If the room air is too humid, ventilation would at first appear nonsensical in the winter, when the outside air is also cold, damp and just as humid.

Cold air however, can absorb little or no moisture. When this air enters the living areas it becomes warmer. And then the air can absorb much more water vapour. After just a few minutes of giving a room an airing, you can see on the digital display how the relative humidity goes down.

Room air temperature in °C	Water content (in g/m^3) in case of saturated* air humidity in the air
± 0	4.8
+ 6	7.3
+ 12	10.7
+ 18	15.4
+ 24	21.8

* at 100 % air humidity

Dew-point

This interdependency of temperature and relative humidity is expressed by means of the dew-point:

If the air is cooled continuously at constant absolute humidity, then the relative humidity will steadily increase up to a maximum of 100%. If the air is cooled further, then the excess water vapour is separated out in the form of water droplets.

If the measuring unit indicates an air temperature of 20° C and a relative humidity of 65%, then the dew-point temperature will be 13.2° C. What does that mean? That the air, for instance in your bedroom, will condense and form water droplets at all points on walls and ceilings that are cooler than 13.2° C, and that this may later lead to patches of mould or damp.
If the air is at a relative humidity of say 40%, then the dew-point temperature is only 6 °C. The walls and ceilings would therefore have to be significantly colder for the air to reach its dew-point and for water droplets to form.

Dew point table

	Dew point temperature in °C							
Temperature	relative air humidity in %							
room air °C	30%	40%	50%	60%	65%	70%	80%	90%
30	10.5	14.9	18.4	21.4	22.7	23.9	26.2	28.2
25	6.2	10.5	13.9	16.7	18.0	19.1	21.3	23.2
20	1.9	6.0	9.3	12.0	13.2	14.4	16.4	18.3
15	-2.2	1.5	4.7	7.3	8.5	9.6	11.6	13.4
10	-6.0	- 2.6	0.1	2.6	3.7	4.8	6.7	8.4

How to achieve the correct temperature and air humidity:

Tips for active heating and ventilation:

- Check the dew-point! Surfaces of walls should not fall below a temperature of 15° C!
- Do not turn the heating completely off when going out.
- Ventilate in all weather conditions, even if it's raining.
- Open the windows for a short time (room airing). A partially open window, for instance in the tilted position, does not have the desired effect, wastes heating energy and can even promote the formation of mould.

- If the room air is too dry, particularly in wintertime, then electrical air humidifiers are recommended, since airing at low outside temperatures will tend to decrease the humidity further.

Duration of airing

- A few minutes are mostly sufficient. Check the value indicated on your COMFORT CONTROL!

Operation:

Startup:

Remove the battery safety strip. Pull off the protection foil on the display. The unit is now ready to use.

Display:

The left row shows the indoor relative humidity, the middle row the room temperature and the right row the dew point. The temperature unit can be changed from °C to °F by the °C/°F-button at the backside.

If the air humidity exceeds 65 % there is a risk of mould formation; a frowning face will appear on the display and an alarm signal is sounded. The acoustic signal can be muted by operating the sliding switch on the rear-side.

MAX/MIN temperatures:

- Press the MAX/MIN button and the highest temperature and humidity is displayed since the last reset.
- Press the MAX/MIN button again, the display shows the lowest temperature and humidity since the last reset.
- To go back to the present values, press the MAX/MIN button once more.
- Press the RESET button to reset the MAX/MIN values to the present temperature.

Placing or hanging up the unit:

A circular opening is provided on the rear-side of the unit for hanging on the wall. To place the unit in the standing position use the foot supplied with the unit.

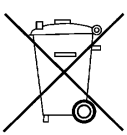
Since the humidity level within rooms can vary greatly according to the location, mount the unit so that it will monitor the conditions in a location likely to be subject to the most problems.

Battery replacement:
Open the battery compartment and insert 2 batteries 1.5 V AA. Close the battery compartment.
Attention: Do not dispose of empty batteries in household waste. Take them to special local collection sites.

Disposal of flat batteries

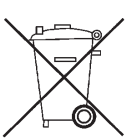
You as the consumer are legally obligated **(battery ordinance)** to return all spent batteries and accumulators; **disposal in the household waste is prohibited**.

Batteries/accumulators containing hazardous substances are marked by the opposite symbols. These symbols also indicate that it is prohibited to dispose of these batteries in the household waste.



The codes for the heavy metals concerned are: **Cd** = cadmium, **Hg** = mercury, **Pb** = lead.
You can return flat batteries / accumulators free of charge to the collection points in your community, our branches or anywhere else where batteries or accumulators are sold.

Disposal



Old electronic devices are valuable materials and may not be disposed of in the household waste. Dispose of the appliance at the end of its service life in accordance with the valid statutory regulations at the communal collection points.

Technical Datas:

Power Supply	2 x 1,5 V/DC (AA batteries)
Measuring range Relative humidity:	1% to 99 % r.F.
Tolerance:	+/- 3%
Measuring range Temperature:	-10°C to + 60°C
Tolerance:	+/- 1%

SWISS PRECISION SENSOR
Our Swiss precision hygroTECH sensor gives a particularly rapid and accurate display of the air humidity.

Maintenance:

- Do not expose the instrument to extreme temperatures, vibration or shock
- Clean it with a soft damp cloth. Do not use solvents or scouring agents.
- Please do not try to repair the unit. Contact the original point of purchase. Please change the batteries before complaining. No guarantee if the instrument is handled or opened improperly.