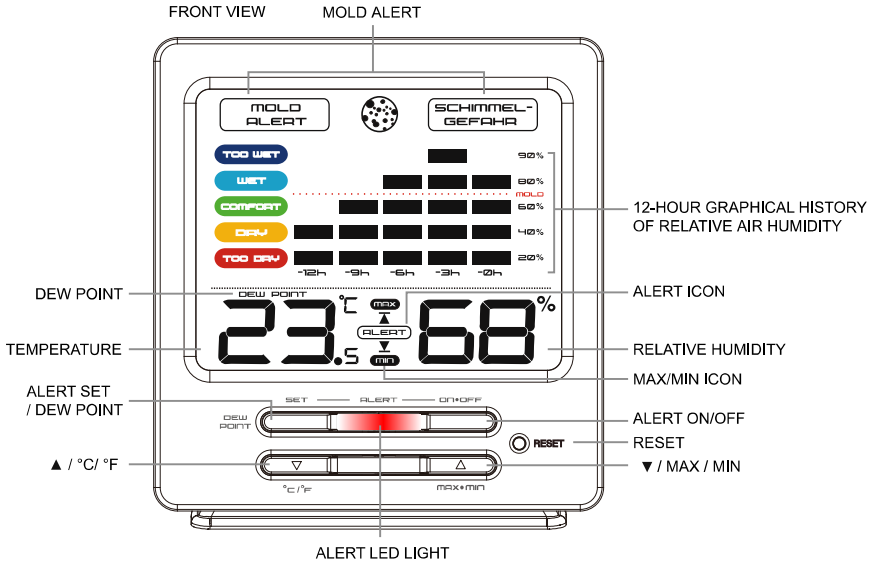
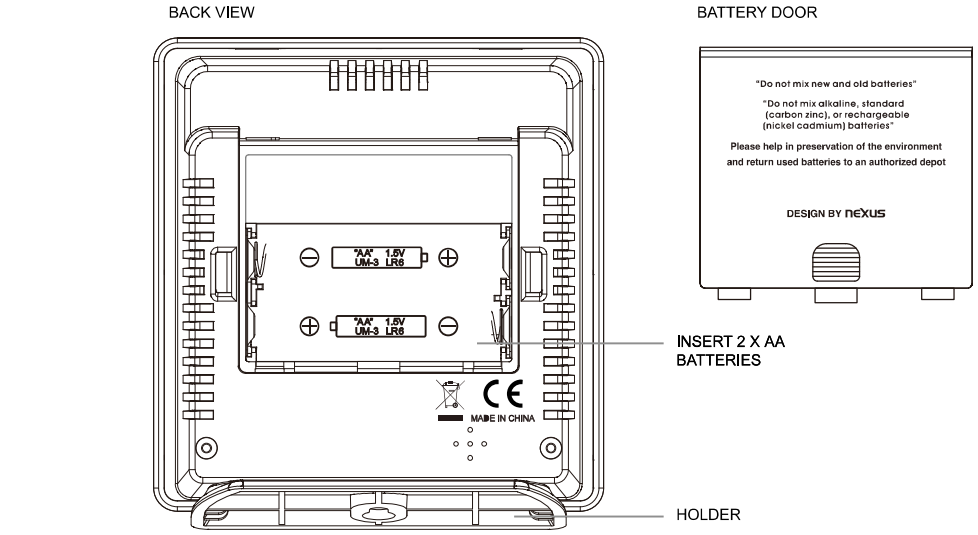
INSTRUCTION MANUAL for WS 9420
Digital COMFORT INDEX Thermometer-Hygrometer with Mold Alert and Dew Point Temperature





FEATURES

- Extra large LCD display
- Indoor Temperature
- Dew Point Temperature
- Indoor Relative Air Humidity
- Degree C/F Temperature
- Mold alert by LED and Mold Alert icon (at 65%, 70%, 75%)
- Max-Min record of temperature and relative air humidity
- 12-hour graphical history of relative air humidity
- Programmable upper/lower relative air humidity with audible and LED alarm
- Easy-to-read colored comfort index
- Low battery indicator

This digital **COMFORT INDEX** Thermo-Hygrometer is an ideal measurement device for checking your room ambient conditions.

HOW DOES AIR HUMIDITY AFFECT YOUR HEALTH AND YOUR HOME

Excess humidity promotes the growth of undesirable organisms in your indoor environment. Maintaining an inside humidity range of 30 to 50% indoors helps prevent growth of molds, mildew, and dust mites. Spending time in a moldy indoor environment can wear down a person's immune system and resistance to respiratory allergies and related infections. Indoor air that is free from mold and mildew also smells fresh and inviting.

Excessively dry indoor air can dry out skin and irritate your throat and sinuses, making those areas more likely to become infected. In arid climates or in the winter when the combustion inside the furnace dries out indoor air, using a humidifier device increases relative humidity--like the can did--but much more precisely

Indoor air that is too dry can cause wood to contract and crack, especially thinner wood such as that used to build guitars and violins. Over longer periods of time, excessively dry air can even crack solid wood beams or logs plus some types of plaster.

Active heating or ventilation can help achieve a comfortable and healthy living environment.

ABOUT DEW POINT TEMPERATURE

Dew point is a measure of how much water vapor is actually in the air.

The dew point is associated with relative humidity. A high relative humidity indicates that the dew point temperature is closer to the current air temperature.

For most people, the air feels humid when the dew point is above 15.5°C (60°F) and uncomfortably hot and sticky when it goes above 21°C (70°F) degrees.

Dew Point °C	Dew Point °F	Human Perception	Relative Humidity at 32 °C (90 °F)
>Higher than 26 °C	>Higher than 80 °F	Severely high. Even bad for asthma related illnesses	65% and higher
24 – 26 °C	75 - 80 °F	Extremely uncomfortable, fairly oppressive	62%
21 – 24 °C	70 - 74 °F	Very humid, quite uncomfortable	52% - 60%
18 – 21 °C	65 - 69 °F	Somewhat uncomfortable for most people at upper edge	44% - 52%
16 – 18 °C	60 - 64 °F	OK for most, but all perceive the humidity at upper edge	37% - 46%
13 – 16 °C	55 - 59 °F	Comfortable	38% - 41%
10 – 12 °C	50 - 54 °F	Very comfortable	31% - 37%
<10 °C	<49 °F	A bit dry for some	30%

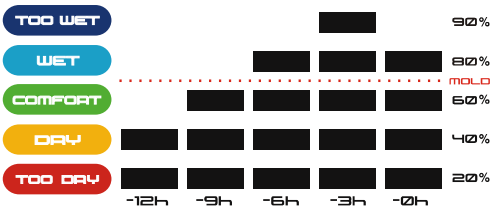
BATTERY INSTALLATION

1. Slide open the battery cover at the back of your mold alert thermo-hygrometer
2. Insert 2 x AA batteries (alkaline batteries preferred) into the battery compartment by observing the correct +/- polarity signs inside the battery compartment.
3. Replace the battery cover. The unit is now ready to use.

12-HOUR GRAPHICAL HISTORY OF RELATIVE AIR HUMIDITY

You could easily view the comfort level of your room conditions in accordance with the last 12-hour relative humidity records.

COMFORT LEVEL	RELATIVE HUMIDITY
TOO WET	81% to 90%
WET	61% to 80%
COMFORT	41% to 60%
DRY	31% to 40%
TOO DRY	20% to 30%



TO USE THE HUMIDITY ALARM

1. To set the humidity alarm, press and hold **SET**, both ALERT and ▲ appears at lower LCD, the humidity digits flash. Press ▲ or ▼ to set the upper humidity limit in every 5% increment.
2. Press **SET o**nce, both ALERT and ▼ appears at lower LCD, the humidity digits flash. Press ▲ or ▼ to set the lower humidity limit in every 5% increment.
3. Press **SET** once or wait for around 10 seconds to return to normal display condition.
4. To turn on the humidity alarm, press **ON.OFF** once. ALERT appears on the LCD.
5. When air humidity exceeds the set limit, both the ▲ or ▼ will flash with with flashing LED.
6. Press any key to stop the alarm and flashing LED. ▲ or ▼ remains flashing on the LCD.
7. To turn off the humidity alarm, press **ON.OFF** once. ALERT and the ▲ or ▼ disappears on the LCD.

Remark: Alarm and flashing LED duration 1 minute

MOLD ALERT

1. To select the mold alert humidity, press and hold the ▼ **/ °C/ °F .** MOLD ALERT SCHIMMEL-GEFAHR appears on the upper LCD and humidity digits flash, press ▲ or ▼ to select mold alert humidity value at 65%, 70%, 75%.
2. Press and hold ▼ **/ °C/ °F** or wait for around 10 seconds to return to normal display condition.
3. If air humidity exceeds the mold alert humidity value, there is a risk of mould formation. The MOLD ALERT SCHIMMEL-GEFAHR will appear on the LCD, the red LED will flash every 5 seconds.
4. Press and key to stop the LED from flashing, MOLD ALERT SCHIMMEL-GEFAHR remains on the LCD until the measured air humidity is lower than the preset mold alert value.

Default mold alert humidity: 65%

TO READ DEGREE C/F TEMPERATURE READOUT

Simply press **°C/ °F** to select degree C or F readout.

TO READ THE MAXIMUM-MINIMUM TEMPERATURE AND HUMIDITY RECORDS
Press **MAX.MIN** one at a time to view the maximum or the minimum temperature and relative humidity since the last reset.

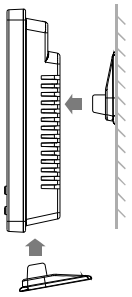
When the maximum temperature and humidity are displayed with MAX, press and hold the **MAX/MIN** will clear the maximums and the unit will start to record and display fresh data again.

When the minimum temperature and humidity are displayed with MIN, press and hold the **MAX/MIN** will clear the minimums and the unit will start to record and display fresh data again.

TROUBLE SHOOTING
In case your wireless thermometer-clock shows irrelevant information or digits, it maybe affected by electrostatic discharge or interferences from other devices. Press the **RESET**. Your unit will be reset to default setting and you need set humidity alarm and mold alert values again.

PLACING OR HANGING UP THE UNIT
Insert the holder to the bottom your unit for desktop display, insert it onto the rear side of your unit for hanging on the wall.

Since the humidity levels 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.



CARE OF YOUR COMFORT INDEX TERHMO-HYGROMETER
1. Do not expose the unit to extreme temperature, water or direct sunlight
2. Avoid contact with any corrosive materials
3. Do not subject the unit to excessive force, dust or humidity
4. Do not open the inner back case or tamper with any components of this unit
5. Do not mix new and old batteries
6. Do not mix alkaline, standard (carbon zinc), or rechargeable (nickel cadmium) batteries
7. Your Thermo-Hygrometer is designed for indoor use only. Do not leave it for outdoor usage.

SPECIFICATIONS

Temperature Range	0°C to +50°C
Tolerance	+/- 1°C
Relative Humidity Range	20% - 95%
Tolerance	+/- 5%
Temperature Resolution	0.1°C
Relative Humidity Resolution	1%

Words in the figure:

Figure 1:	ENGLISH	Other Language
	FRONT VIEW	
	MOLD ALERT	
	12-HOUR GRAPHICAL HISTORY OF RELATIVE AIR HUMIDITY	
	ALERT ICON	
	RELATIVE HUMIDITY	
	MAX / MIN ICON	
	ALERT ON / OFF	
	RESET	
	▲ / MAX / MIN	
	ALERT LED LIGHT	
	▼ / °C/ °F	
	ALERT SET / DEW POINT	
	TEMPERATURE	
	DEW POINT	
	BACK VIEW	
	INSERT 2 X AA BATTERIES	
	HOLDER	
	BATTERY DOOR	

Consideration of duty according to the battery law

Old batteries don't belong to domestic waste because they could cause damages of health and environment. End-user are committed by law to bring back needed batteries to distributors and other collecting points.