GNV-720
GNV-725
Humidity Temperature Meters

User Manual

Table Contents

Safety

Safety

To avoid personal injury and/or product damage, review and comply with the following safety precautions. These precautions apply to both operating and maintenance personnel and must be followed during all phases of operation, service, and repair of this meter.

Dry Conditions

Hands, shoes, floor, and work bench must be dry. Avoid making measurements with dampness, or other environmental conditions that might affect safety.

Cleaning

Use a soft cotton cloth lightly moistened with a mild solution of detergent and water. Do not allow any portion to be submerged at any time. Dry thoroughly before attempting to make measurements. Do not use solvents or expose to solvent fumes as they may cause deterioration or damage.

Do not operate:

- In the presence of noxious, corrosive, flammable fumes, gases, vapors, chemicals, or finely-divided particulates.
- In environments where there is a danger of any liquid being spilled on the meter.
- In air temperatures exceeding the specified operating temperatures.
- In atmospheric pressures outside the specified altitude limits or where the surrounding gas is not air.

Compliance and Certifications

CE Compliance

This product meets the essential requirements of the applicable European Directives as follows:

- 89/336: Electromagnetic Directive (EMC)
- 2011/65/EU: Restriction of Hazardous Substances Directive (RoHS)

Disposal

(Applicable in the European Union and other European countries with separate collection systems). This product is subject to Directive 2012/19/EU of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE), and in jurisdictions adopting that Directive, is marked as being put on the market after August 13, 2005, and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product.

Caution! Refer to the operating instructions.

Introduction

The GNV-720 and GNV-725 are digital humidty, temperature meters that measure relative humidity and ambient temperature as well as employing a "K" type thermocouple for more precise contact temperature measurements. The GNV-725 expands the capabilities with data logging functionality.

Kit Includes

This meter comes with the following:

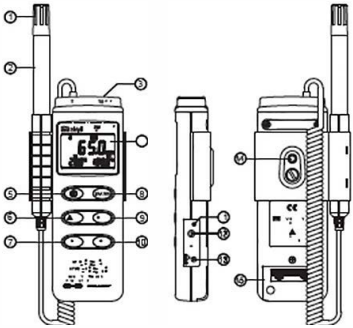
- Instruction manual
- PC software (only with GNV-725)
- RS-232 cable (SE-300, only with GNV-725)
- 9 V battery
- Carrying case
- Probe holder
- K type bead thermocouple (CT3240*)

*The CT3240 is rated for - 50°C to 200 °C. For higher temperature measurements please order the CT3241.

Specifications

Specifications	
Measurement Range	
Humidity	0% to 100%
Temperature @ T1	-20 C to +60 C (-4 F to +140 F)
Temperature @ T2	-200 C to +1370 C (-328 F to +2498 F)
Resolution	
Humidity	0.1 % RH
Temperature @ T1	0.1 C (0.1 F)
Temperature @ T2 (CT3240*)	-200 C to +200 C, 0.1 C 200 C to 1370 C, 1 C (-200 F to +200 F, 1 F) (200 F to 2498 F, 1 F)
Accuracy	
Humidity	± 2.5 % RH at 25 C
Temperature @ T1	± 0.7 C (± 1.4 F)*
Temperature @ T2	± 0.5 % reading + 1 C (± 0.5 % reading + 2 F)
Response Time	
Humidity	75 s
Temperature	40 s
Signal Output	RS-232 data output
Display	4 digit LCD
Weight	320 g
Dimensions	
Meter	186 x 64 x 30 mm
Probe	190 x 15(D) mm
Environmental	
Battery Life	Approx. 100 hrs w/ alkaline battery (9V)
Operating Environment	0 C to 50 C (32 F to 122 F)
Total Memory (GNV-725)	16,300 data points

Instrument and Display Description



1. Dust mask
2. Sensor probe
3. T2 channel, "K" type thermocouple
4. LCD display
5. Power button
6. ΔREL (GNV-720)
   TIME (GNV-725)
7. °C control (GNV-720)
   REC (GNV-725)
8. MAX/MIN button
9. HOLD button
10. °F control (GNV-720)
    °C/°F (GNV-725)
11. "K" type offset calibration screw
12. Digital output connector (RS-232)
13. AC power adapter connector
14. Tripod mounting hole
15. Battery cover

°C °F : Celsius and Fahrenheit indicators

%RH : Relative humidity indicator

MAX : The maximum value is displayed

MIN : The minimum value is displayed

: Auto power off indicator

H : Data hold function indicator

m-d : Month and day

h:m : Hour and minute

m:s : Minute and second

Y : Year

: Low battery indicator

K : Thermocouple type indicator

ΔREL : Relative mode indicator

Operating Instructions

- Press the power button to turn the Humidty Temperature Meter ON or OFF. Upon power up, the available memory will be displayed (GNV-725).
- To measure the ambient temperature and humidity place the meter within the desired environment and press the **power** button.
- To measure with the "K" type thermocouple, first insert the plug portion into the channel labeled "T2" at the top of the meter. Then position the bead on the object under test and press the **power** button.
- To switch the temperature scale, press either the **°C** or **°F** button.
- To hold the current reading, press the **HOLD** button. To release this value, press the **HOLD** button again.
- To view the maximum or minimum values, press the **MAX MIN** button. The maximum value is displayed while MAX is showing and the minimum value is displayed while MIN is showing. The maximum and minimum values will both be displayed while MAX and MIN are both blinking. To exit this mode, simply hold the **MAX MIN** button for two seconds.
- To view the change in values press the **ΔREL** button. This uses the current value as reference then takes the difference with all subsequent values and then displays it.
- The auto power off function is the default setting and turns the meter off after 30 minutes in the absence of button presses or RS-232 communication. This can be disabled by pressing and holding first the **HOLD** button and then the **power** button together until you hear two beeps. The will no longer be displayed indicating the meter will not turn off automatically anymore.
- Replace the battery once the symbol is displayed.
- The digital output is a 9600 bps N 81 serial interface.

Data Logging

- To initiate data logging press the **REC** button. Pressing the **REC** button again will stop recording. To clear the memory, first power the meter off. Then, while holding the **REC** button, press the **power** button. Release both buttons and "CLR" will be displayed to show that the memory has be cleared.

- To set up the clock, press and hold the **MAX MIN** button, then power on the meter. Press the **TIME** button. Then press the **REC** or **°C/°F** buttons to increase or decrease the value. Press **TIME** again to adjust the next item in the following order: year, month, day, hour, minute. Press **TIME** one more time to save settings. Pressing the **power** button at any time will cancel the process.
- To set the recording interval press and hold the **MAX MIN** button then power on the meter. Press the HOLD button. Then press the **REC** or **°C/°F** buttons to increase or decrease the value. Press **HOLD** again to adjust the next item. Press **HOLD** one more time to save settings. Pressing the **Power** button at any time will cancel the process.
- To display the time press the **TIME** button. The time will be displayed with the year at the top, the month and day at the bottom left, and the hour and minute on the bottom right of the LCD. Press **TIME** again to exit this mode. This will not interfere with recording, maximum, or minimum holding values.

Warning! Do not touch or manipulate sensor.

Do not expose the sensor to direct light, this can cause false readings.

Do not expose the sensor to static electricity.

Software Installation

System requirements:

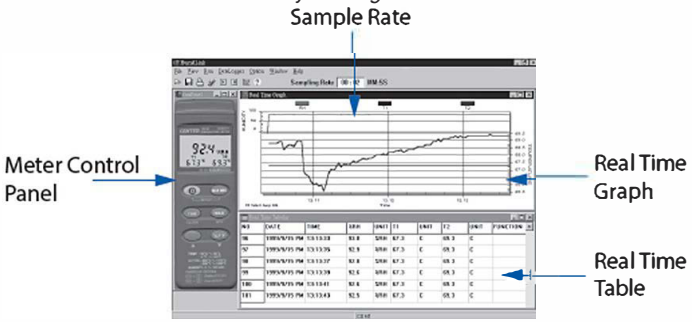
- Software download
- RS-232 cable (SE-300)
- Windows 10
- 16 MB RAM and 5 MB hard disk space

Installation:

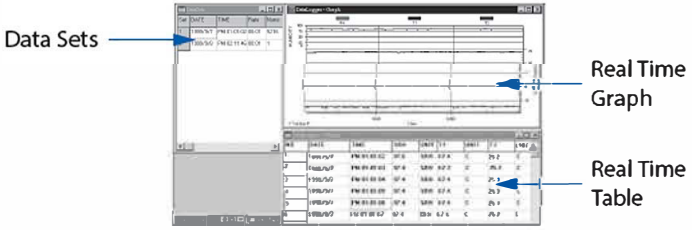
- Close all other applications.
- Open TestLink file (SETUP.exe). The installer should start automatically.
- The default save location should be c:\program files\TestLink.

Using the Software

- Run the TestLink software by clicking the TestLink file.



- To take measurements, click on the run icon ▶ from the tool bar. The graph and table should automatically start populating with data. The interval can be changed by typing in the sample rate box.
- (GNV-725) Data logging can be selected by clicking the appropriate menu at the top of the tool bar. Data will automatically be downloaded. Once the data is loaded succesfully a new window will pop up.



- The data sets window displays how many sets were loaded including the details for each (start date, start time, recording rate, and data length). Clicking on any of the sets will populate the graph and table with the data.

Calibration

Humidity

1. Turn the unit off. Pres and hold **MAX MIN**, **HOLD** and **°C** buttons. While these buttons are pressed, turn the power on. Release the buttons and all the segments on the LCD will blink.
2. Within three seconds, press the **°F** and **ΔREL** buttons at the same time to enter the calibration mode.
3. In calibration mode, the humidity reading will blink and "CAL1" will appear on the second display.
4. Insert the humidity probe into the standard humidity cavity of 32.8% RH at 25 °C. Let the system stabalize for 20 minutes then press the **MAX MIN** button to create the calibration data. If the value is out of tolerance, the meter will beep twice and remain in "CAL1" mode. If the value is within tolerance the meter will go directly into "CAL2" mode and display "CAL2" on the second display.
5. Insert the humidity probe into the standard humidity cavity of 75.3% RD at 25 °C and let the system again stabalize for 20 minutes. Press the **MAX MIN** button to create the calibration data. The meter will beep twice if the value is out of tolerance. The meter will exit cal bration mode if the value is within tolerance.

T1 Temperature

1. Turn the unit off. Pres and hold **MAX MIN**, **HOLD** and **°C** buttons. While these buttons are pressed, turn the power on. Release the buttons and all the segments on the LCD will blink.
2. Within three seconds, press the **°F** and **HOLD** buttons at the same time to enter the calibration mode.
3. In calibration mode, the temperature reading will blink and "CAL1" will appear on the second display.
4. Insert the probe into the standard chamber of 0 °C (32 °F). Let the system stabalize for 20 minutes then press the **MAX MIN** button to create the calibration data. If the value is out of tolerance, the meter will beep twice and remain in "CAL1" mode. If the value is within tolerance the meter will go directly into "CAL2" mode and display "CAL2" on the second display.
5. Insert the humidity probe into the standard chamber of 40 °C (104° F) and let the system again stabalize for 20 minutes. Press the **MAX MIN** button to create the calibration data. The meter will beep twice if the value is out of tolerance. The meter will exit calibration mode if the value is within tolerance.

Calibration Notes

- To exit calibration mode at any point during the calibration procedure, simply press the **power** button. This will cancel the cal bration and will not save any data.
- To reset factory conditions, press the and hold the **power** button and **HOLD** buttons together.
- It is recommended to first insert the probe into the standards for 20 minutes before initiating the calibration procedure to ensure the best results.
- During calibration, the temperature scale is fixed on the °F scale.
- During calibration, the auto power off function is disabled and will be enabled again after exiting calibration mode.

Test Equipment Depot - 800.517.8431
99 Washington Street Melrose, MA 02176
TestEquipmentDepot.com