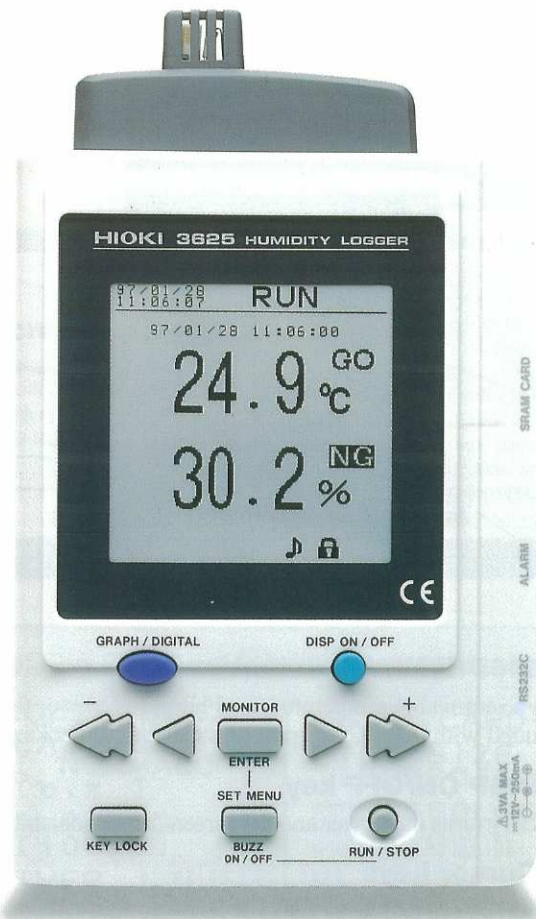


## 3625 HUMIDITY LOGGER

Electronic Measuring Instruments

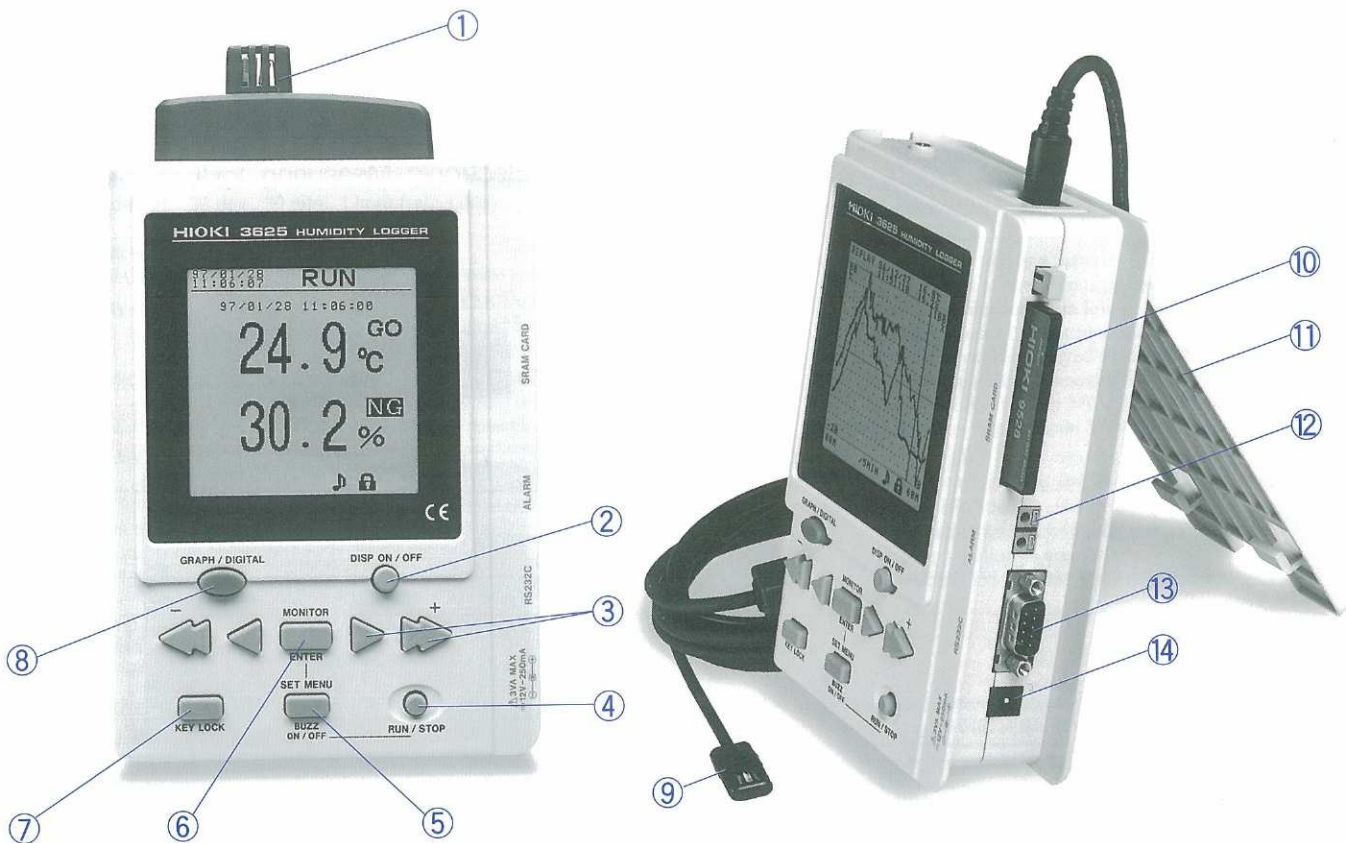


## A Hand-held Temperature and Humidity Logger That Makes Measurement by PCs Possible

The 3625 HUMIDITY LOGGER can record temperature and humidity measurement data on an SRAM card and display the data in a graph. The 3625 can also load the data into a personal computer for processing. The Humidity Logger also comes with analysis software (HTD GRAPH) that can be used on a personal computer to quickly and freely create graphs of collected data, compress or expand those graphs, perform statistical processing, modify data, and print out data. All in all, the 3625 is convenient both for storing data and for reporting data.

Furthermore, despite the fact that the 3625 is a compact, hand-held unit, it includes an RS-232C interface, an alarm (comparator) contact output, an AC adapter jack, and other features that make this temperature and humidity logger a useful tool for temperature and humidity management in a wide variety of environments.

# Card, Communications and Alarm Functions



① **9463 HUMIDITY SENSOR** (installs in main unit/included)

This is a removable temperature and humidity sensor that is included with the 3625 as part of the standard package.

② **DISP ON/OFF key**

This key turns the power and the screen display on and off.

③ **Cursor keys**

These keys are used to make selections and settings on the screen, and to move the cursors on the graph screen.

④ **RUN/STOP key**

This key is used to start and stop measurement operations.

⑤ **SET MENU (BUZZ ON/OFF) key**

This key displays the menu screen. This key is also used to turn the alarm setting buzzer on and off while measurement is in progress.

⑥ **MONITOR (ENTER) key**

This key can be used to monitor the current temperature and the humidity or dew point. On the menu screen, this key is used to enter the selected menu setting screen.

⑦ **KEY LOCK key**

This key is used to prevent measurement from being accidentally stopped by a key being pressed accidentally while measurement is in progress.

⑧ **GRAPH/DIGITAL key**

This key is used to switch between the graph and digital screens.

⑨ **9464 HUMIDITY SENSOR** (extension type/sold separately)

This is an optional extension-type sensor that is also available from HIOKI.

⑩ **SRAM card**

Data can be stored either on the 9596 RAM CARD that is included with the 3625 as part of the standard package, or on any other PC card (SRAM, up to 4MB) that is available on the market.

⑪ **Stand**

This removable plate can be used as a stand or to hang the 3625 on a wall.

⑫ **Alarm output**

If the alarm functions are used, this connector acts as an open collector output (35V - 50mA max.) when the evaluation result is NG.

⑬ **RS-232C interface**

Data can be transferred to a personal computer through this interface.

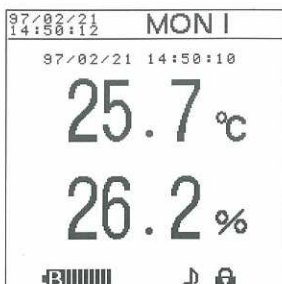
⑭ **AC adapter jack**

The 3625 can either run off of battery power, or it can be powered through an AC adapter for continuous operation during long-term measurement.



# All Housed in a Compact Body

## Monitoring



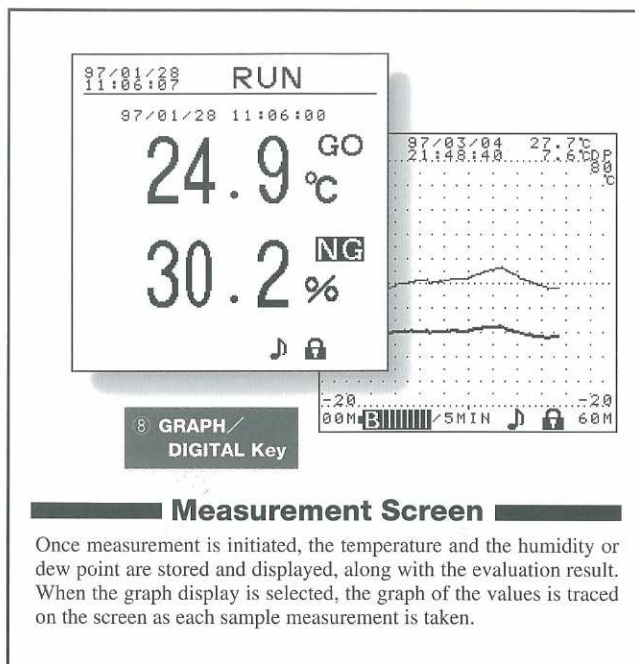
6 MONITOR key

### Monitor Screen

This screen displays the current temperature and the humidity or dew point. This information is useful when setting the graph scale, for example.

(These readings are not stored in the SRAM card.)

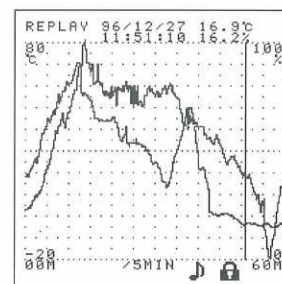
## Measurement



### Measurement Screen

Once measurement is initiated, the temperature and the humidity or dew point are stored and displayed, along with the evaluation result. When the graph display is selected, the graph of the values is traced on the screen as each sample measurement is taken.

## Analysis



3 Cursor keys or  
6 MONITOR key

### Replay Screen

This screen can be used to replay the data stored in the card. When the digital display is selected, the data is displayed one sample at a time. When the graph display is selected, the cursors can be used to read measurements at any particular point along the time axis, and the display can be compressed or expanded as needed.

## Settings

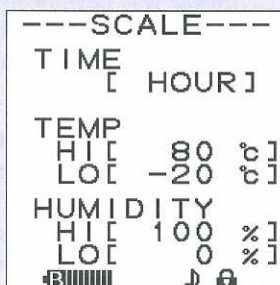


5 SET MENU key

### Menu Screen

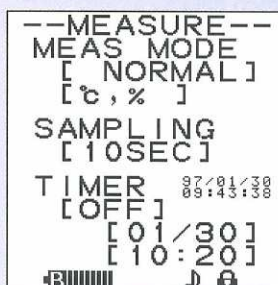
This screen displays the setting items. Select these items as necessary to enter the corresponding setting screen.

### Setting Screens



#### Scale settings

This screen is used to set the scale of the vertical and horizontal axes of the graph.



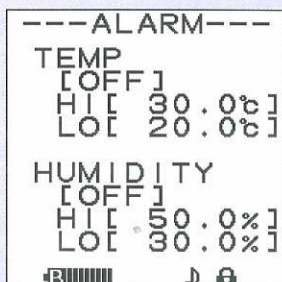
#### Measurement settings

This screen is used to set the items to be measured, the sampling cycle, and the timer.



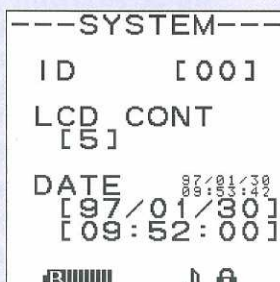
#### SRAM card settings

This screen is used to set the file size and to initialize the card.



#### Alarm settings

This screen is used to set the upper and lower limits for temperature and the humidity or dew point.



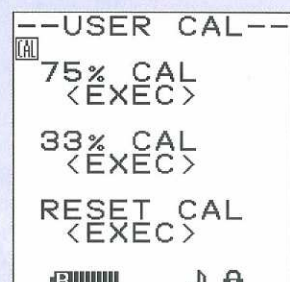
#### System settings

This screen is used to set the ID number, the screen contrast, and the internal clock.



#### RS-232C settings

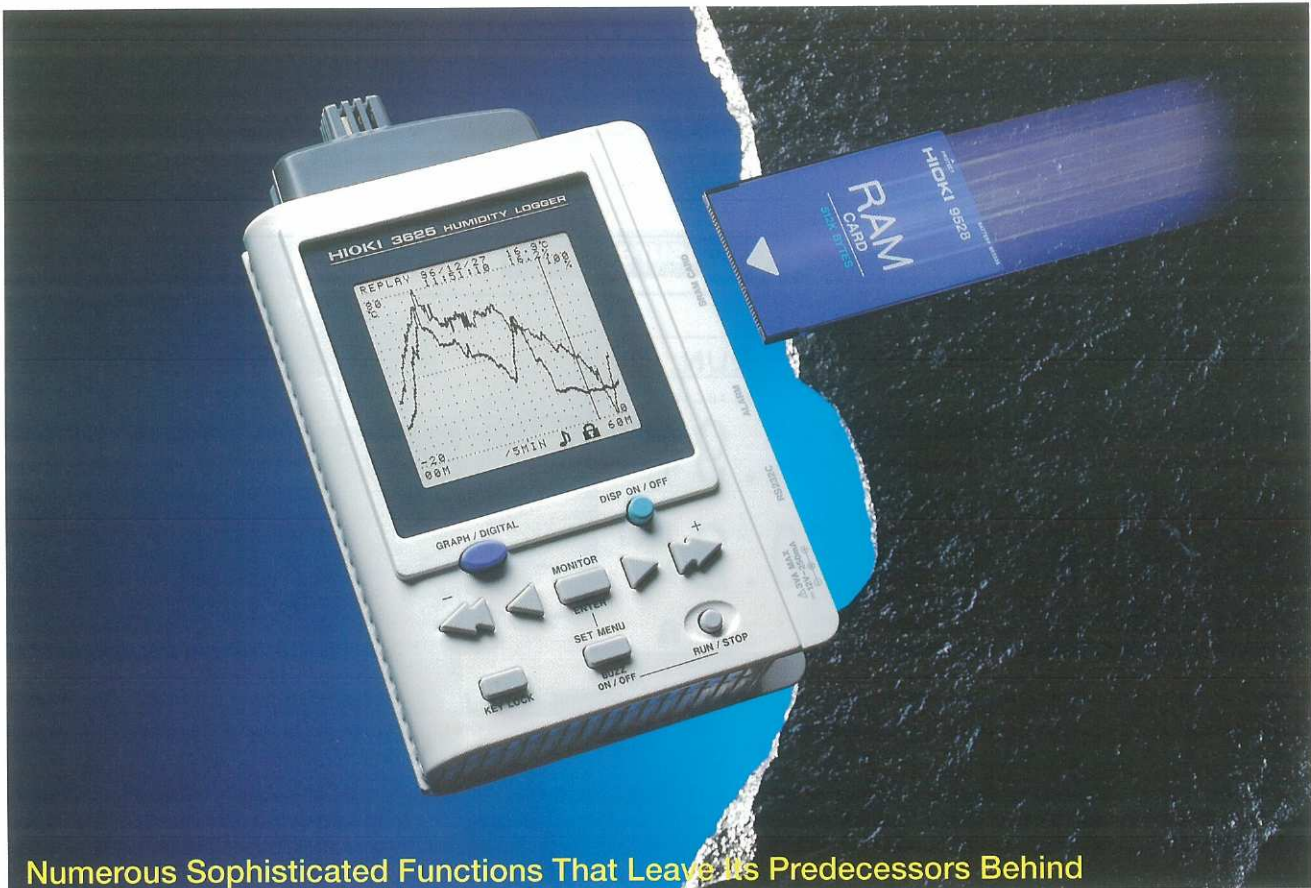
This screen is used to set the data transfer settings for the RS-232C interface.



#### Calibration settings

This screen is used for relative humidity calibration using the saturation salt solution.





Numerous Sophisticated Functions That Leave Its Predecessors Behind

## Thoroughly Handles All Temperature/Humidity Management Needs

For a long time, hair thermo-hygro recorders have been commonly used for recording temperature and humidity. However, these devices are inadequate when it comes to making effective use of the recorded data.

The 3625 HUMIDITY LOGGER provides both the excellent graph recording capability of earlier models

with the utility of digital data. In addition, it is suitable for use in a fixed location or in the field. Above all, this high-performance, sophisticated temperature/humidity logger was developed with an emphasis on convenience and the ability to load measurement data into a personal computer for processing.

### ● Two displays: digital and graph

The 3625 can display data either in digital format or in a graph. The graph allows the operator to see changes in temperature and humidity (or the dew point) over time at a glance.

### ● Compression/expansion and cursor measurement on the graph screen

When previously recorded data is being replayed on the graph screen, the horizontal axis can be set to one hour, one day, one week, or one month, while the vertical axis can be set to 100°C, 50°C, 20°C, or 10°C, allowing the operator to compress or expand the graph as needed. In addition, the cursors can be used to read measurements at any particular point along the time axis.

### ● Storing large amounts of data in the SRAM card

Up to 34,554 data elements (temperature, humidity, alarm OFF settings) can be stored in the 9596 RAM CARD (1MB) provided with the 3625. Because the 3625 supports third-party SRAM cards with a capacity up to 4MB, it is possible to store large volumes of data on a single card. Because the data in a card can be loaded directly into a personal computer as an MS-DOS text file, the data can be used with spreadsheet software. Finally, because up to 256 different files can be created and stored in a single SRAM card, one card can be used to store data that was collected from multiple locations.

### ● By using the special software provided, a personal computer can be used to process data, display graphs, and control the 3625

The HTD GRAPH analysis software provided with the 3625 makes it possible to use a personal computer can be used to process data and control the 3625.

### ● Replay function for reviewing past data

The 3625 can display (in digital or graph form) any past measurement data that is stored on the SRAM card, even while other measurements are currently being taken.

### ● Dew point display function, alarm function

The 3625 can display the dew point, which it determines from the temperature and humidity measurements. The alarm function can be used to protect facilities and equipment from condensation.

### ● User calibration function

The 3625 allows the user to calibrate it for 75% or 33% relative humidity, using the saturated salt solution.

### ● Materials supporting traceability are available

Because the 3625 is calibrated against a standard device that can be traced to a national standard, HIOKI can provide documents to meet quality control requirements, such as a traceability diagram, calibration certification, or inspection records. (A fee will be charged for these documents.)



# Suitable for Rigorous Environment Control and Paperless Data Collection, Analysis, and Storage



**In a factory, assembly line, or other location where the manufacturing process requires rigorous work environment control data**

- Semiconductor fabs
- Plants that manufacture precision components
- Clean rooms
- Printing/publishing-related plants
- Chemical plants, etc.

● **Sampling cycle: 10 sec. to 1 hour** (nine different settings)

The 9596 RAM CARD provided with the 3625 can store data measured over a period of 95:59:00 (when sampled on a 10-second cycle), to 1439 days and 18 hours (when sampled on a 1-hour cycle).

● **Measurement range:**

- [When using the 9463 (installed type)]  
0 to 40.0°C/10.0 to 80.0% RH
- [When using the 9464 (extension type)]  
-20.0 to 80.0°C/10.0 to 95.0% RH
- High precision:  $\pm 0.5^{\circ}\text{C}$  (at  $-20$  to  $40^{\circ}\text{C}$ )  
 $\pm 3\%$  RH (35 to 85% RH, at 20 to  $30^{\circ}\text{C}$ )
- High resolution: 0.1°C, 0.1% RH

● **Can operate off of two different power supplies:**

- 6 × (LR6) alkaline batteries or the 9418-10 AC ADAPTER

The battery option allows for data collection in the field, where it is not always possible to plug into an AC power outlet.

● **RS-232C interface as a standard feature**

Because the 3625 includes an RS-232C interface as a standard feature, the unit can transfer data to other systems or be operated by remote control.



**For Data Management for a Test or Experimental Environment in a Thermostatic Chamber, Etc.**

- Measuring and recording in a thermostatic chamber used for a variety of experiments
- Controlling the experiment/test environment for pharmaceutical products
- Controlling the experiment/test environment for biotech products



**For inspection and data collection for any type of residential environment, such as monitoring of air conditioning, etc.**

- Data collection for an air-conditioned environment
- Situations that require the 3625 to be carried around in order to collect data in multiple locations
- Controlling the environment in special situations, such as hospitals



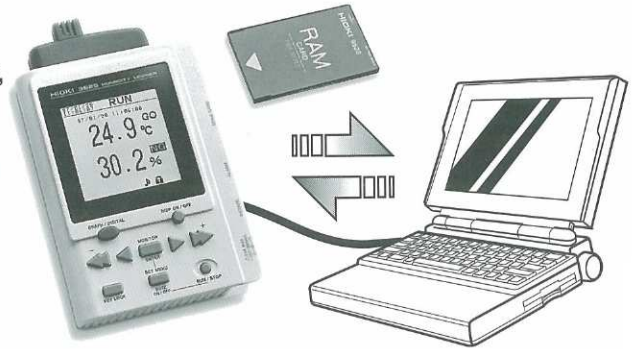
## Measurement with a PC Using the Special Software

# Analyze Data Covering Long Periods Efficiently

### What is "HTD GRAPH?"

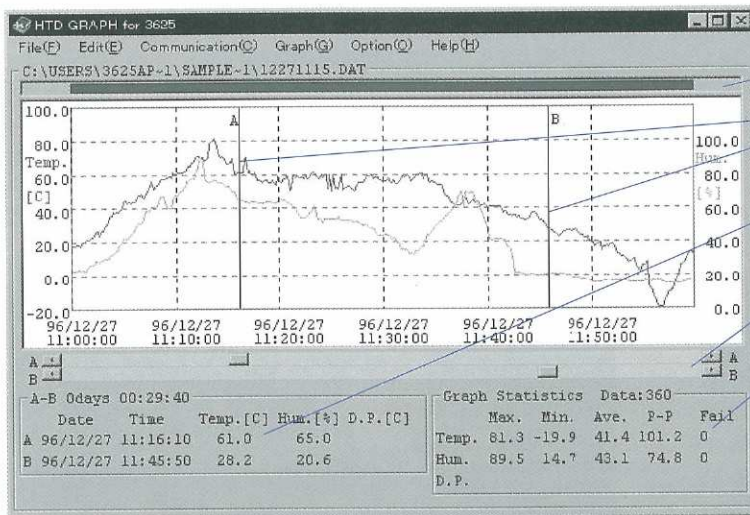
"HTD GRAPH" is software that makes it possible to use a personal computer to process data that was collected with the 3625, and to control the 3625 through a personal computer.

- Can display a graph of temperature and humidity measurements taken by the 3625, or the temperature and dew point.
- The vertical and horizontal axes of a graph can be changed freely, allowing the user to enlarge any portion of a graph for closer inspection.
- Graph screens can be converted into BMP-format files, creating a variety of possible uses, such as pasting graphs into reports.
- HTD GRAPH can process a maximum of 52,560 data elements.
- HTD GRAPH can be used to edit data, such as deleting unnecessary segments of measurement data.
- HTD GRAPH can display tables of data, perform statistical operations, and print out data.
- A personal computer can control the 3625 and retrieve measurement data using the RS-232C interface.



Data can be transferred either via a SRAM card or through the RS-232C interface.

### Graph Display Screen



① Position bar

② A/B cursors

③ A/B cursor information

④ A/B cursor scroll bars

⑤ Statistical operation information

### Data List Screen

| Date     | Time     | Temp.[F] | Hum.[%] |
|----------|----------|----------|---------|
| 96/12/27 | 11:00:00 | 63.9     | 22.3    |
| 96/12/27 | 11:00:10 | 63.7     | 22.9    |
| 96/12/27 | 11:00:20 | 64.6     | 23.0    |
| 96/12/27 | 11:00:30 | 66.0     | 23.0    |
| 96/12/27 | 11:00:40 | 65.8     | 23.5    |
| 96/12/27 | 11:00:50 | 64.4     | 23.3    |
| 96/12/27 | 11:01:00 | 66.7     | 23.9    |
| 96/12/27 | 11:01:10 | 68.2     | 23.4    |
| 96/12/27 | 11:01:20 | 69.6     | 23.3    |
| 96/12/27 | 11:01:30 | 71.2     | 24.6    |
| 96/12/27 | 11:01:40 | 71.1     | 25.8    |
| 96/12/27 | 11:01:50 | 72.7     | 26.5    |
| 96/12/27 | 11:02:00 | 73.8     | 27.0    |
| 96/12/27 | 11:02:10 | 76.6     | 27.3    |

① Position bar

This bar indicates what portion of all of the data is currently being displayed in the graph.

② A/B cursors

The cursors can be used to read measurements at any particular point along the time axis, and to specify a portion of the graph to be expanded.

③ A/B cursor information

This area displays the time and measured values indicated by the cursors, and the alarm values. When the alarms are enabled, the measured values are displayed in red when they are outside of the set range. (Color display only)

④ A/B cursor scroll bars

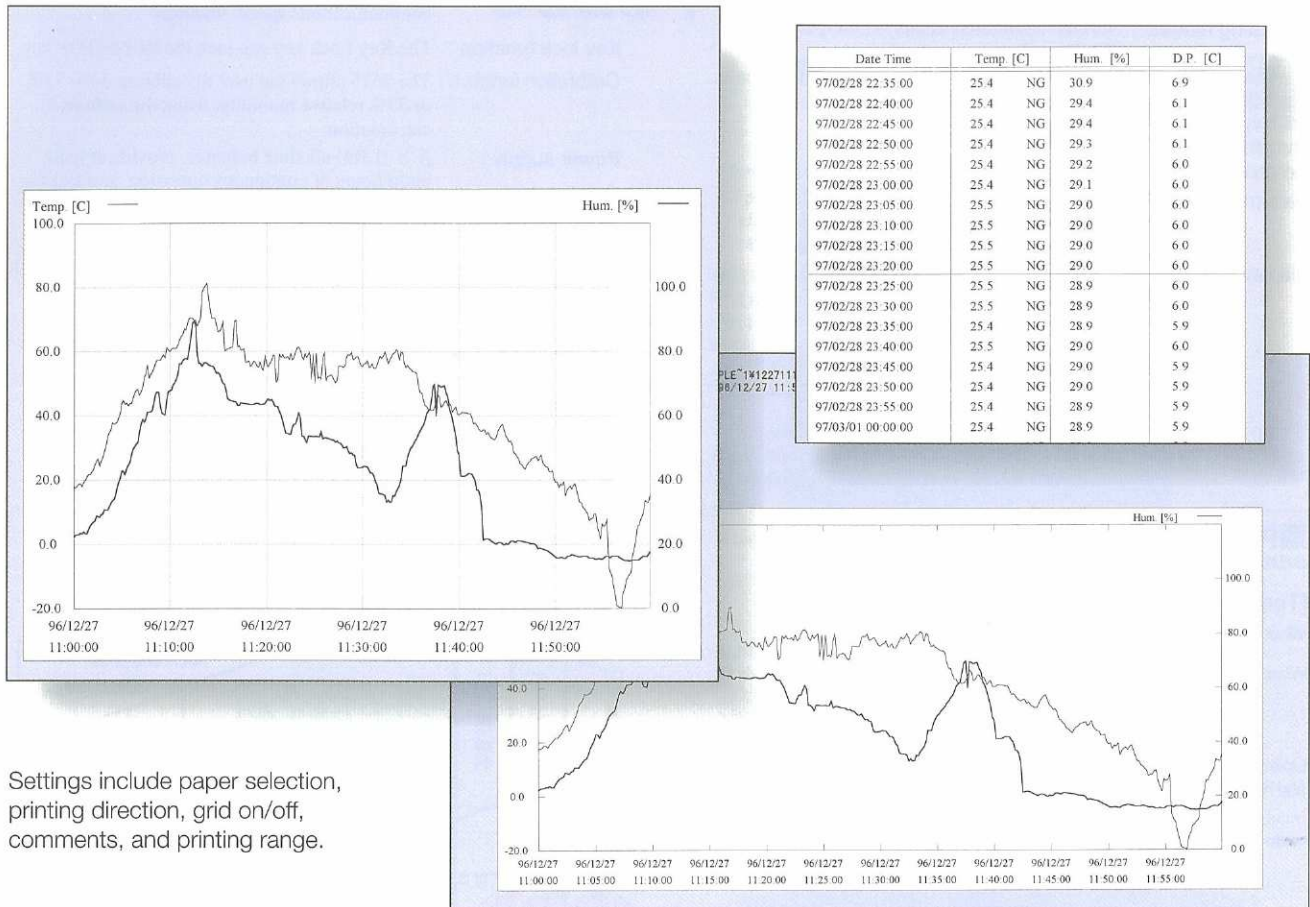
The mouse is used with these to move the cursors.

⑤ Statistical operation information

This area displays statistical values for the data displayed on the graph.



## Printing Example



Settings include paper selection, printing direction, grid on/off, comments, and printing range.

## General Specifications of HTD Graph

### Media

Two 3.5-inch 2HD (1.44MB) floppy disks

### Operating environment

Main unit: A personal computer equipped with an i386SX(\*1) or higher CPU and that is running Windows 3.1(\*2) or Windows 95(\*2)  
 Memory: At least 3.6MB in a PC98-compatible machine, at least 4MB in a PC/AT-compatible machine  
 Display: Color or monochrome display that is compatible with Windows 3.1  
 Hard disk: At least 4MB of free disk space

### Recommended operating environment

[These operating environment requirements are especially recommended when processing data for more than 5,000 measurement points.]

Main unit: A personal computer equipped with an i486DX(\*1) or higher CPU and that is running Windows 3.1(\*2) or Windows 95(\*2)

Memory: At least 8MB

Display: A display capable of displaying at least 16 colors with a resolution of 640 × 480

PC card: A PCMCIA-compliant PC card slot

\*1 "i386SX" and "i486DX2" are registered trademarks of Intel Corporation of the U.S.

\*2 "Windows" is a registered trademark of Microsoft Corporation of the U.S.

## Function Specifications

Maximum amount of data that can be handled : 52,560 data elements/3 types (temperature, humidity, dew point)

File operations : Open file, save file

Printing : Graph printing, data table printing; supports A4, B4, and B5 paper sizes

Screen : Graph screen, data table screen, and other various display and setting screens

Graph display function : Can display a temperature graph, humidity graph, and dew point graph; display scale can be changed; specific data can be displayed with the A and B cursors; time delta calculation

Editing : Copy to clipboard

Statistics : Can calculate maximum, minimum, average, and P-P for either just the data displayed in the graph or for all data.

Communications : Data can be retrieved through the RS-232C interface; in addition, measurement can be started in response to a timer and the 3625 can otherwise be controlled through the RS-232C interface.

Data calibration : Deletion of previous and subsequent data; measurement time change; correction of alarm settings

Temperature unit conversion : Can convert displayed temperatures from Celsius to Fahrenheit and vice versa



## 3625 Specifications

|  |   |
|--|---|
| Sensor element :   | [Temperature] Platinum temperature-indicating resistor Pt100 (JIS class A)  |
|  | [Humidity] Macromolecular humidity sensor   |
| A/D conversion method :                                      | $\Sigma \Delta$ (Sigma-delta method)  |
| Display :  | Dot matrix LCD (192 × 192 dots)   |
| Measurement range :  | [When using the 9463] Temperature: 0°C to 40°C (no condensation) Humidity: 10% to 80% RH  |
| * Do not use the 3625 in high temperatures or high humidity. | [When using the 9464] Temperature: -20°C to 80°C (no condensation) Humidity: 10% to 95% RH  |
| Measurement resolution :                                     | Temperature: 0.1°C/Humidity: 0.1% RH  |
| Operating modes :  | Normal (continuous display)/Low-power mode (display off)  |
| Sampling cycles when storing data in memory :                | 10 sec., 30 sec., 1 min., 5 min., 10 min., 15 min., 20 min., 30 min., 1 hour (selectable)   |
| Sampling cycle when monitoring data :                        | Fixed at 2 sec. (measurements are displayed only, not stored in memory)   |
| Data memory :  | Memory card storage method (PCMCIA/Type I, Type II-compatible) Supports any SRAM cards with capacity of 512K, 1MB, 2MB, or 4MB                                      |
| Display functions :  | [Digital display] Temperature and humidity or dew point<br>[Graph display] Temperature and humidity or dew point (Select either humidity or dew point for display.) |
|  | • Time axis setting (select either hour, day, week, or month)   |
|  | • Vertical axis setting (upper limit: -10°C to 100°C, 10% to 100%; lower limit: One of four settings, either 10, 20, 50 or 100°C or %)                              |
|  | • Display can be scrolled, specific values at the cursors can be displayed, and the graph's vertical and horizontal axes can be compressed or expanded.             |

|                             |  |
|-----------------------------|--|
| Alarm functions :           | Upper and lower limit values can be set for temperature and humidity or dew point. An alarm buzzer can be sounded if any of the measured values goes beyond their corresponding upper or lower limit.<br>• Alarm output (ON/OFF switching, open collector output)<br>• Buzzer output (ON/OFF switching)  |
| Timer function :            | A measurement start time can be set.   |
| Interface :                 | RS-232C (used by the special PC software provided with the 3625) D-sub 9-pin connector; communications speed: 9600bps  |
| Key lock function :         | The Key Lock key can lock the RUN/STOP key.  |
| Calibration function :      | The 3625 allows the user to calibrate it for 75% or 33% relative humidity, using the saturated salt solution.  |
| Power supply :              | 6 × (LR6) alkaline batteries provide at least eight hours of continuous operation, and last for at least three months in low-power mode (with a sampling cycle of at least 10 minutes). Remaining battery level is displayed on the LCD. It is also possible to use the 9418-10 AC ADAPTER (100V to 240V AC, 50/60Hz), maximum rated output: 3 VA. |
| Dimensions/mass :           | 124mm (W) × 172mm (H) × 47mm (D), approximately 470g (not including the sensor)  |
| Compliance with standards : | Safety IEC1010-1<br>Installation category I (main unit), II (AC adapter), pollution level 2<br>EMC: EN55011; 1991/EN50082-1: 1992  |

**Precision** (main unit and sensor together; the operating temperature and humidity range for the 3625 main unit is 0°C to 40°C and 0 to 80% RH)

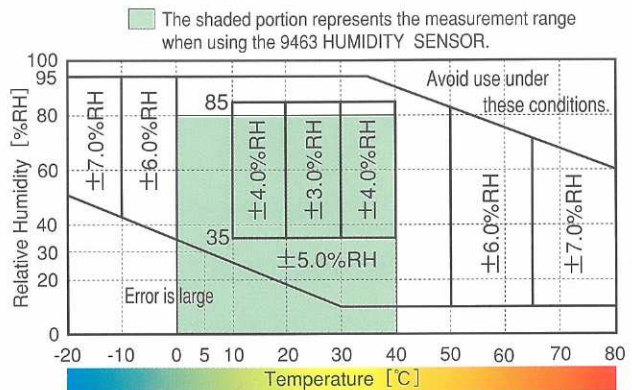
### [Temperature]

|                       |   |
|-----------------------|---|
| When using the 9463 : | ±0.5°C<br>(main unit and sensor together at 0°C to 40°C and 0 to 80% RH)  |
| When using the 9464 : | ±0.5°C (-20°C to 40°C; refer to the precision chart at right for the humidity range)<br>±0.7°C (40°C to 80°C; refer to the precision chart at right for the humidity range) |

|  |   |
|--|---|
| Operating temperature and humidity range : | [When using the 9463] 0°C to 40°C and up to 80% RH for both the main unit and the sensor<br>[When using the 9464] 0°C to 40°C and up to 80% RH for the main unit and the circuit box; -20°C to 80°C and up to 95% RH for the sensor tip |
| (Always with no condensation)              |   |



9464 HUMIDITY SENSOR (Extended Type)



## 3625 HUMIDITY LOGGER

(Includes the 9463 HUMIDITY SENSOR, the 9418-10 AC ADAPTER, the 9596 RAM CARD (1MB), two floppy disks containing the [HTD GRAPH] PC software, and a stand.)



9463



9418-10  
universal 100 to 240 V AC,  
12 V DC/2.5 A output



9596

## Options

**9464 HUMIDITY SENSOR** (extension type; approximately 2.7m)

Note: This is a non-CE mark product.

**9392 CARRYING CASE**

\* The photograph depicts the case with all options housed.



**9597 RAM CARD** (4 MB)

# HIOKI

HIOKI E. E. CORPORATION

### HEAD OFFICE :

81 Koizumi, Ueda, Nagano, 386-1192, Japan  
TEL +81-268-28-0562 / FAX +81-268-28-0568  
E-mail: os-com@hioki.co.jp

### HIOKI USA CORPORATION :

6 Corporate Drive, Cranbury, NJ 08512 USA  
TEL +1-609-409-9109 / FAX +1-609-409-9108

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