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Fluke 5020A Thermo-Hygrometer

Technical Data

Comprehensive and precise environmental monitoring of temperature and humidity

The Fluke 5020A Thermo-Hygrometer is a dual-sensor, graphical data logger / analyzer offering precise real-time and historical display and analysis of temperature and humidity data. It is an ideal solution for environments where accurate ambient temperature and humidity must be monitored and recorded, including calibration, research and medical testing laboratories, or pharmaceutical and food storage applications. The 5020A also replaces paper-based humidity chart recorders, eliminating the associated problems with paper, ink, records storage, and accuracy.



Key features:

- Temperature to ± 0.125 °C and RH to ± 1.5%
- Large LCD for clear display of trend charts, statistics, real-time and historical data
- Two probe inputs for local and remote monitoring
- Two probe models to choose from for each input – the "S" (± 0.25 °C / ± 2 % RH) and the "H" (± 0.125 °C / ± 1.5 % RH)
- Probes contain their own calibration data for convenient, easy recalibrations
- Calculates and displays statistics, dew point, heat index, and rate of change
- On-board memory holds 400 K time / date-stamped readings; optional PC card holds millions more
- Visual and audio alarms for numerous alarm or fault conditions
- IrDA and RS-232 for easy computer and printer interface
- Optional 5020A-LW3 software logs in real time or shows graphical / statistical data from PC card
- Interfaces with Fluke MET/CAL® *Plus* Calibration Management Software

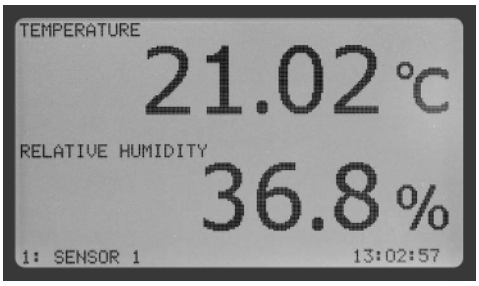
Dual inputs provide exceptional accuracy

The Fluke 5020A has two inputs with removable sensing probes. Each probe stores its own calibration constants, allowing probes to be used interchangeably between channels and between 5020A units while retaining full calibration integrity.

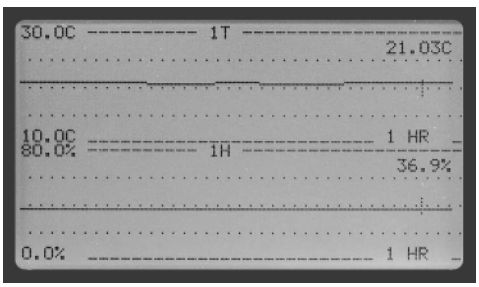
Two types of probes are available. The "S" model provides standard accuracies of ± 0.25 °C/ ± 2 % RH, while the "H" model provides accuracy of ± 0.125 °C/ ± 1.5 % RH. Both probes can be connected to optional extension cables and mounted in remote locations up to 50 feet away from the 5020A mainframe using the optional probe wall mount bracket. Alternatively, one probe can be mounted directly to the top of the 5020A.

Wide variety of display configurations and parameters

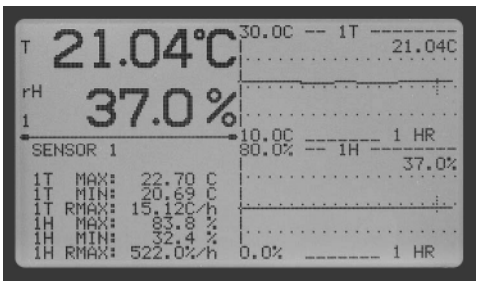
The 5020A calculates dew point, heat index, and rates of change for temperature and humidity. Min, max, and a variety of other statistics are calculated and can be shown in more than 16 different user configurable display formats and more than 12 display parameters. Daily summary statistics, including min, max, and maximum rates of change are stored for the most recent 60 days.



Temperature and humidity display



Trending display



User selectable display parameters

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Alarms

Alarms may be set based on temperature, RH, or on rate of change of either parameter with the Fluke 5020A. Alarms are recorded to the data file as well as giving the user the option of a visual alarm (display flashing), audible alarm (beep) enunciation, or both. In addition to the setting of alarm points from the easy-to-use keyboard and menu system of the 5020A, alarms can be set using the 5020A-LW3 configuration, logging and trending software.

Memory

The 5020A has internal memory which can store up to 400,000 time-stamped data points. An optional 64 MB flash PC memory card is available that allows the 5020A to store years of data. Data from the PC memory card or internal memory may be displayed on the 5020A display using the convenient push-button menu system or downloaded to a PC.

Security

The 5020A satisfies many regulatory requirements for security with its ability to respond to user name and password to ensure secure data. Password access to sensor information, data records, statistics, alarms and time are all built into the 5020A.

MET/CAL® *Plus* Calibration Software interface

The Fluke 5020A is easily interfaced to Fluke's MET/CAL® *Plus*, using 5020A-LW3 software. This unique feature allows MET/CAL *Plus* software (versions 7 or higher) to read temperature and humidity from the 5020A directly into a calibration record as you start to run a procedure. All the environmental information required for your calibration becomes a permanent part of the calibration record – without requiring you to enter the data manually or add it later when you create a report. And using the 5020A with MET/CAL *Plus* software is easy, allowing you even greater automation and convenience.

Multi-station, multi-room capability

MET/CAL *Plus* software can read multiple 5020As located in different calibration areas, providing a perfect solution for large calibration labs with multiple rooms or MET/CAL *Plus* software stations. Because each 5020A is assigned a unique asset number, it can be viewed from any MET/CAL software station in your system. This unique number also provides identification required for traceability in quality and regulatory records.

Optional software retrieves, stores, analyzes data

5020A-LW3 for Fluke software is a versatile application that retrieves data from the Fluke 5020A and stores it in a single database, to provide flexible, real-time and historical data management. You can view data in easily customized graphical and statistical formats for one or both sensors at user-defined time intervals. View real-time data as it streams into a chart format customized for your particular application.

5020A-LW3 lets you perform a variety of tasks:

- Customize multi-graph displays
- Review critical statistics at a glance
- Export data to popular spreadsheet programs
- Easily import data from your PC card or from the 5020A's onboard memory
- Control and trigger alarm events
- Configure multiple user accounts and security access
- Assign or change sensor names
- Store setup files

Specifications

Temperature range: 0 °C to 50 °C

Temperature accuracy:
16–24 °C ± 0.125 °C (H model)
15–35 °C ± 0.25 °C (S model)
[Other temps from 0–50 °C: ± 0.5 °C]

Temperature resolution: User selectable 0.001 °C

RH range: 0 % to 100 %

RH accuracy:
20 % to 70 % RH: ± 1.5 % (H model)
20 % to 70 % RH: ± 2 % (S model)
0 % to 20 % RH, 70 % to 100 % ± 3 % (uncalibrated, typical)

RH resolution: User selectable to 0.01 %

Probe/sensor: Each probe measures RH and temperature with self-contained calibration data making probes interchangeable to any 5020A. Probes may be assigned digital serial number by the user to satisfy regulatory requirements. May be remoted to 50 feet with optional cable. One probe included with mainframe. Polymere / capacitive RH sensor type and thermistor temperature sensor

Display: LCD, monochrome

Security: Assignable user name and password

User-defined display content: Yes (up to 16 different display setups may be stored for easy recall)

Memory: 400 K readings

Alarms: Limit, rate of change, system fault

Data logging interval: 1 sample / sec. to 1 sample / hr., user selectable

Communications: RS-232 /IRDA

Compatible with MET/CAL 7.0 > software: Yes **(requires 5020A-LW3 software)**

Power: 12 V dc (9V backup battery included)

Software: 5020A-LW3

PC card interface: Compatible with flash memory PC cards (optional)

Mounting: Wall or table top, (wall mount hardware include)

Operating temperature range: 0 °C to 50 °C

Size (5020A): 4.9" H x 8.3" W x 2.0" D (125 x 211 x 51 mm)

Size (probe): 3.1" H x 0.75" D (79 x 19 mm)

Weight: 1.5 lb. (0.7 kg)

Calibration: NIST-traceable, three-point temperature cal and 3 Point RHCAL with data and uncertainties provided

Ordering Information

5020A-H: Fluke High Accuracy Thermo-Hygrometer (includes high-accuracy probe, 5020A wall mount bracket and RS-232 cable)

5020A-HKIT: Fluke Thermo-Hygrometer, High Accuracy includes high-accuracy probe, 5026A wall mount bracket and RS-232 cable. High accuracy spare probe kit (5027A-H) and 5020A-LW3 software, single-PC license

5020A-S: Fluke Thermo-Hygrometer, Standard Accuracy (includes probe, 5020A wall mount bracket and RS-232 cable)

5020A-SKIT: Fluke Thermo-Hygrometer Standard Accuracy Kit, includes standard-accuracy 5020A-S with standard probe, wall mount bracket and RS-232 cable. Also includes one standard accuracy spare probe kit (model 5027A-S) and 5020A-LW3 software

5026A-H: Spare probe, 5020A-H

5026A-S: Spare probe, 5020A-S

5027A-S: Spare probe kit, 5020A-S (includes standard-accuracy probe, probe case, wall mount bracket, and 25-foot [7.6 m] extension cable)

5027A-H: Spare Probe Kit, 5020A-H (includes high-accuracy probe, probe case, wall mount bracket, and 25-foot [7.6 m] extension cable)

Y5028: Cable, 25-foot (7.6 m) probe extension cable

Y5029: Cable, 50-foot (15.2 m) probe extension cable

5032A-64MB: PC card (PCMCIA), 64 MB

5026A-CASE: Protective case, spare probe

5020A-CASE: Protective case, (includes space for the 5020A, two probes, an extra PC card, RS-232 cable and power cord)

5020A-PS: Spare power supply, 100/240 V ac

5020A-LW3: 5020A software, single-PC license

5020A-LW3LIC: 5020A-LW3 license (for additional PCs)

5030A-MNT: Bracket wall mount for 5026A probe

Fluke. *Keeping your world up and running.*

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Printed in U.S.A. 7/2004 2117320 D-ENG-N Rev B

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5020A-S 5020A-LWLIC 5032A-64MB 5026A-CASE 5020A-CASE 5027A-S 5026A-S 5020A-PS 5020A-S KIT 5020A-LW3 5030A-MNT