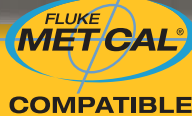# 1620A "DewK" Thermo-Hygrometer

Technical Data

- Superior accuracy
- Network enabled
- Powerful logging and analysis tools
- Two interchangeable calibrated sensors
- Huge memory
- Upgraded software

FLUKE MET CAL ®

COMPATIBLE

The Fluke MET/CAL compatible 1620A DewK Thermo–Hygrometer revolutionizes environmental monitoring for calibration laboratories.

Now you can easily monitor and record conditions through-out your entire facility with the DewK's new Ethernet and wire-less connections, and set your upgraded Log*Ware* III software to notify you immediately of chang-ing conditions.

You'll still have the superior convenience, dependability, and NIST-traceable accuracy of a 1620, but your 1620A will give you the added accessibility and peace of mind you've been looking for.

Accuracy

Two types of sensors are avail-able from Fluke Calibration, and the DewK may be originally purchased with either one. The high–accuracy sensor ("H" model) reads temperature to ± 0.125 °C over a calibrated range of 16 °C to 24 °C. Relative humidity readings are to ± 1.5 %RH from 20 %RH to 70 %RH.

The standard-accuracy sensor ("S" model) reads temperature to ± 0.25 °C over its calibrated range of 15 °C to 35 °C. Relative humid-ity readings are to ± 2 %RH from 20 % RH to 70 %RH.

All DewK sensors come with NVLAP accredited certificates of calibration for both temperature and humidity, complete with data and NIST traceability. Fluke pro-vides exceptional uncertainties,

including total test uncertainty ratios better than 3:1 for both temperature and relative humid-ity—even for the high–accuracy sensors!

Both sensors can also measure temperature below their respec-tive calibrated ranges to 0 °C and above their respective calibrated ranges to 50 °C with typical accu-racy of ± 0.5 °C. And RH readings from 0 %RH to 20 %RH and from 70 %RH to 100 %RH are typically within ± 3 %.

Ethernet and wireless capability

The DewK gives you all the com-munications options you expect, and then some. With its built-in Ethernet RJ45 jack, multiple DewKs can be monitored from the same screen using our new Log*Ware* III client-server software. Ether-net also gives you the possibility for remote connectivity over the internet, so you can monitor critical conditions while you're away.

Cables running along the floor can be a safety hazard, and cables hanging from the ceiling and walls are an eyesore. With the DewK, your wireless dreams will come true when you connect your computer through an RF modem up to 100 ft away, without the clutter of all the extra cables!

Finally, if you need a printout, send data to a printer through the RS-232 interface in real time.

Math and statistical functions

In addition to temperature and humidity, the DewK calculates dew point, heat index, and rates of change for both temperature and humidity, without the need to buy additional software. Min, max, and a variety of other statistics are also calculated and can be shown on-screen. Daily summary statistics, including min, max, and maximum rates of change are stored for the most recent sixty days.
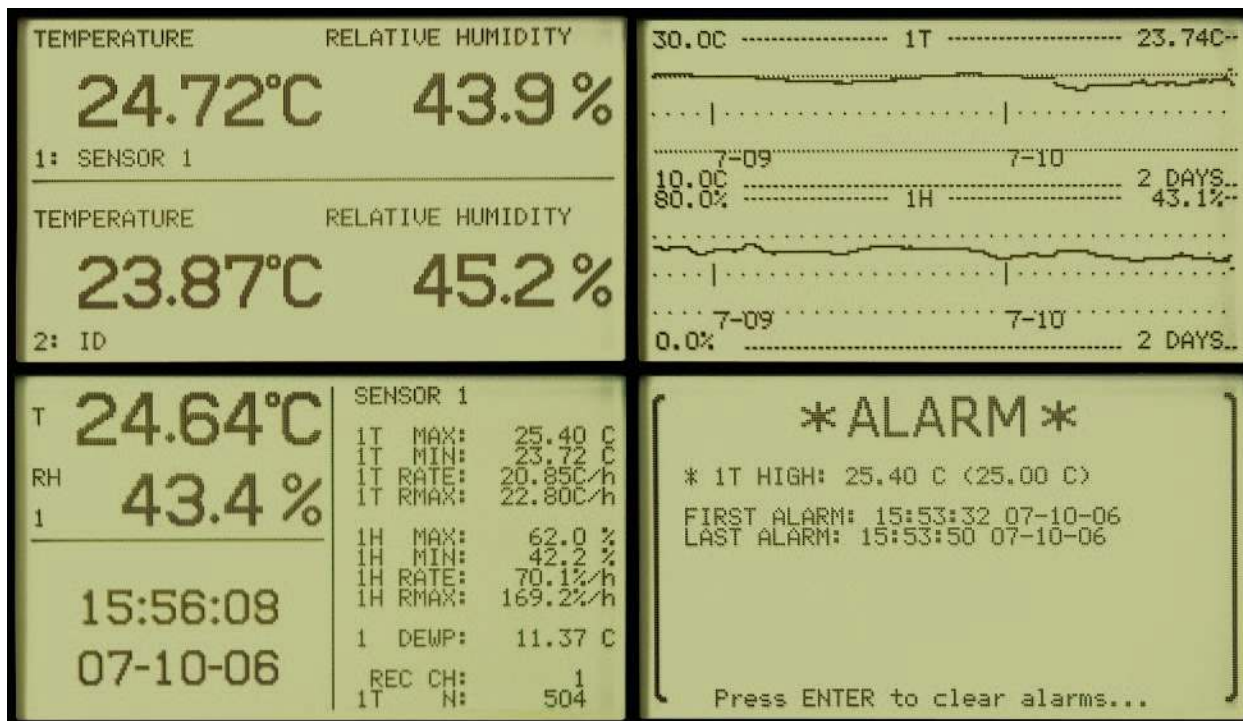
The DewK lets you view data just about any way you like it. Both graphical data and statistical data can be shown for temperature and humidity from one or two inputs. Modifying any of the standard screens is easily done, so you see exactly what you want—no more, no less.

Calibrated sensors

With the DewK you get two for the price of one. Having inputs for two sensors, each measuring both temperature and relative humidity, one DewK can monitor two locations at the same time. Both sensors can be run via extension cables to remote locations up to 100 feet away, or one sensor can be directly mounted to the top of the DewK.

Each sensor is calibrated for both temperature and humidity. The calibration constants assigned to the sensors reside in a memory chip located inside the sensor housing, so sensors may be used interchangeably between different DewKs, and the recalibration of sensors doesn't require an accompanying DewK.

Sensors may also be assigned a unique identifier (up to 16 characters) to facilitate record keeping by matching the sensor identifier with the collected data. Each DewK ships with one sensor, with additional sensors available from Fluke. Spare sensors may also be purchased as a kit, which includes a case for the sensor, a wall mounting bracket, and a 25-foot extension cable.

Memory

The DewK has enough on-board memory to store up to 400,000 date-and time-stamped data points. That's two years' worth of data for both measurements from two sensors if readings are taken every ten minutes!

Alarms and battery backup

Alarm settings can be set up quickly in the DewK based on temperature, the rate of change in temperature, RH, the rate of change in RH, and instrument fault conditions. Alarms can be both visual (flashing display) and audible (beeping). Likewise, alarm settings can be set up and events triggered in LogWare III. The DewK is also equipped with a 0 to 12 volt alarm output that can trigger a process control system.

A backup battery shuts down the DewK's display but maintains measurements for up to 16 hours in the event of a power failure.

One very cool display

Want to view data from across the room? Want to view data from two temperature and two humidity inputs simultaneously? Want to view data graphically, statistically, or both? At the same time?! The DewK does everything you could want—or at least everything we could think of. Up to sixteen different display setups can be stored and recalled at the touch of a single button. And all 16 can be easily modified, so you get exactly what you want.

Confidence

Fluke Calibration supplies the world's finest measurement laboratories with world-class temperature standards. We not only measure temperature and humidity better than anybody, we make temperature measurements functional and productive.

Don't compromise on your lab standards. Measure with confidence. Partner with Fluke Calibration.

LogWare III

If you really want to get the most out of your DewK, LogWare III is an investment worth every penny. As client-server or stand-alone software, it remotely monitors and logs an unlimited number of concurrent log sessions into a single database. That means data from many DewKs can be managed in real time via Ethernet, RS-232, or wireless connections.

LogWare III allows you to customize your graph trace color, alarms, and statistics as you go. You can start/stop log sessions and modify sample intervals from your computer. LogWare III supports "hot-swapping," which allows you to remove and replace sensors without shutting down the log session. LogWare III also supports security features such as passwords for individual users or groups/teams, a built-in administrator account, pre-defined user groups, and customizable permissions.

Never again be the last to know about a problem. Customizable email settings allow you to send emails to designated recipients, including cell phones and PDA's, when a log session begins, ends, or is aborted; when the DewK's battery is low; when a sensor calibration is due; or when a temperature/humidity alarm is exceeded.

If you cannot be reached via email, you can always arrange to be paged instead. Data stored on the DewK can be imported into the software, which is a handy feature when power outages disable the network.

Are you ready for a deep dive into your data? Historical data can be viewed by sensor (model/serial number) location, or log session and displayed in a spreadsheet-style grid. Logged data can also be exported to HTML, RTF or ASCII text for use in your analytical software, or simply print historical data and graphics.

Customizable graphs in LogWare III with zooming capability are an easy way to analyze your data history, and data points that need to be
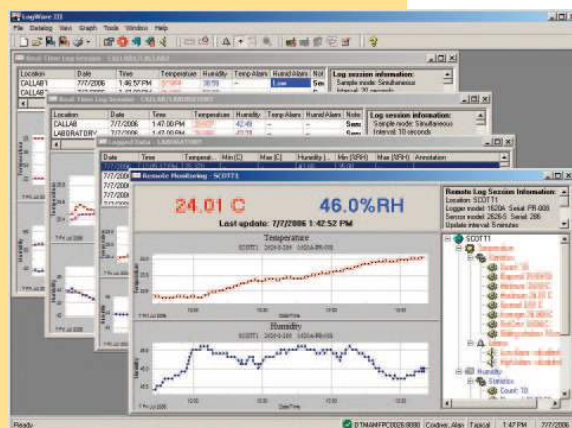
explained can be highlighted, annotated, and referred to later. LogWare III statistics include min, max, spread, average, and standard deviation functions, and printed reports keep track of the number of temperature and humidity measurements that were found to be out of tolerance.

Ordering Information

Models

1621A-H The "DewK" Thermo-Hygrometer, High-Accuracy Value Kit (includes two high-accuracy sensors, wall mount bracket, RS-232 cable, 7.6 m [25 ft] sensor extension cable, sensor wall mount bracket, sensor case, and 9936A LogWare III single-PC license)

1620A-H The "DewK" Thermo-Hygrometer, High-Accuracy (includes one high-accuracy sensor, wall mount bracket, and RS-232 cable)

1621A-S The "DewK" Thermo-Hygrometer, Standard-Accuracy Value Kit (includes two standard-accuracy sensors, wall mount bracket, RS-232 cable, 7.6 m [25 ft] sensor extension cable, sensor wall mount bracket, sensor case, and 9936A LogWare III single-PC license)

1620A-S The "DewK" Thermo-Hygrometer, Standard-Accuracy (includes one standard-accuracy sensor, wall mount bracket, and RS-232 cable)

Sensors

2626-H Spare Sensor, high-accuracy

2627-H Spare Sensor Kit (includes high-accuracy sensor, sensor case, sensor wall mount bracket, and 7.6 m [25 ft] extension cable)

2626-S Spare Sensor, standard-accuracy

2627-S Spare Sensor Kit, (includes standard-accuracy sensor, sensor case, sensor wall mount bracket, and 7.6 m [25 ft] extension cable)

Accessories

2633-RF Wireless Option (requires wireless modem)

2633-USB Wireless Modem, USB to wireless

2633-232 Wireless Modem, RS-232 to wireless

2628 Cable, Sensor Extension, 7.6 m (25 ft)

2629 Cable, Sensor Extension, 15.2 m (50 ft)

9328 Protective Case for 1620A and two sensors

2607 Protective Case for spare sensor

2361 Spare Power Supply, 100 to 240 V ac

Software

9936A LogWare III Software (Single License)

9936A-L1 1-Pack License, LogWare III Software

9936A-L5 5-Pack License, LogWare III Software

9936A-L10 10-Pack License, LogWare III Software

9936A-LST Site License, LogWare III Software

9936A-UPG 9936A Software Upgrade from version 1.x

Specifications

Operating range	0 °C to 50 °C (32 °F to 122 °F); 0 % RH to 100 % RH
Calibrated temperature Accuracy ("H" Model)	± 0.125 °C from 16 °C to 24 °C (± 0.225 °F from 60.8 °F to 75.2 °F)
Calibrated temperature Accuracy ("S" Model)	± 0.25 °C from 15 °C to 35 °C (± 0.45 °F from 59 °F to 95 °F)
Calibrated RH accuracy ("H" Model)	± 1.5 % RH from 20 % RH to 70 % RH
Calibrated RH accuracy ("S" Model)	± 2 % RH from 20 % RH to 70 % RH
Expected extrapolated Performance (uncertified)	± 0.5 °C (± 0.9 °F) outside calibrated range, ± 3 % RH outside calibrated range
Delta temperature accuracy	± 0.025 °C for ± 1 ° changes within 15 °C to 35 °C (± 0.045 °F for ± 1 ° changes within 59 °F to 95 °F)
Temperature resolution	User selectable up to 0.001 °C/°F on front-panel display (0.01° recorded)
Delta humidity accuracy	± 1.0 % RH for ± 5 % changes within 20 % RH to 70 % RH
RH resolution	User selectable up to 0.01 % on front-panel display (0.1 % recorded)
Inputs	Up to two sensors, measure temperature and relative humidity, detachable, cable-extendable, interchangeable, self-contained calibrations, may be assigned unique 16-character identifications
Display	240 x 128 graphics monochrome LCD, displays password-protected temperature/humidity data graphically, numerically, and statistically (one or both channels); 16 pre-defined, user-changeable screen setups
Memory	400,000 typical individual date/time-stamped readings
Alarms	Password-protected visual, audible, and external alarms for temperature, temperature rate, RH, RH rate, and fault conditions
Alarm port output	2.5 mm two-conductor subminiature plug, 0 V normal, 11 to 12 V active, sources up to 20 mA
Connectivity	Ethernet, RS-232, RF (optional)
Ethernet	RJ45 jack, 10 Base-T or 100 Base-TX; static or dynamic (DHCP client) IP address assignment
Web page	Embedded web page interface features: instrument identification, measurements, password-protected terminal page; can be disabled
Wireless option	**Requires wireless modem.** 802.15.4 (underlies Zigbee), 2.4 GHz frequency, 1 mW transmit power, 30 m (100 ft) typical unobstructed range; can be disabled
Mounting	Wall mounted (hardware included) or set on a bench top
Power	12 V dc from external 100 to 240 V dc power supply
Battery backup	Standard 9 V battery enables continued measuring during power disruptions
Size (DewK) (HxWxD)	125 mm x 211 mm x 51 mm (4.9 in x 8.3 in x 2.0 in)
Size (Sensors) (LxDia)	79 mm x 19 mm (3.1 in x 0.75 in)
Weight	0.7 kg (1.5 lb)
Calibration	Certificate of NIST-traceable NVLAP accredited temperature and humidity calibration included; As Found and As Left data supplied at three temperature points and three humidity points each at 20 °C (68 °F); Complies with NCSL/ISO/IEC 17025:2000 and ANSI/NCSL Z540-1-1994
Log*Ware* III (optional software)	Requirements include: Microsoft® Windows® 2000 (SP4) or XP (SP2) operating system, IBM compatible Intel Pentium® IV 1 GHz PC processor or better, 512 Mb RAM (1 Gb or more recommended), 200 Mb HDD space for installation (additional free space recommended for data storage), CD-ROM drive for installation

Fluke Calibration. *Precision, performance, confidence.*™

Electrical	RF	Temperature	Pressure	Flow	Software