

Vaisala Veriteq Temperature and RH Data Recorder Series 2000



particles, or conductivity. The 2000 recorder can include a Boolean channel for door switches or alarm contacts.

Ideal for use in standalone or networked applications, the 2000 data recorder connects directly to a PC with USB or installs to an existing network via Ethernet, Power over Ethernet or WiFi. Each recorder contains a 10-year battery and onboard memory for recording a wide range of parameters at the point of measurement. With autonomous power and recording capacity, data is immune to network and power interruptions.

The 2000 data recorders can be used with our software to download, display, and analyze environmental data as well as provide tamper-proof electronic records that meet 21 CFR Part 11 requirements. The optional browser-based viewLinc system provides 24/7 multi-stage alarm notification, remote, real-time monitoring and gap-free data. Reports are customizable and can be exported to Excel®.

Features/Benefits

- Industry-leading temperature and relative humidity measurement precision
- High accuracy, adjustable time-based digital recording
- Printed reports for any time period
- Extended 10-year long-life battery
- Ability to perform validation and continuous monitoring with the same model
- NIST-traceable, A2LA accredited calibration
- Superior alternative to chart recorders and hard-wired systems
- Integrated high-accuracy RH sensor

Vaisala's 2000 Series of data recorders are designed to provide high accuracy measurements for temperature, relative humidity and an analog sensor of your choice. The 2000 recorder combines internal temperature and RH sensors with an optional external channel for either current or voltage inputs for recording parameters such as differential pressure, CO₂, level,

Technical Data

General

Size	85 x 59 x 26mm (3.4 x 2.3 x 1") 76g (2.7 oz.)
Interfaces	RS-232 serial, USB, WiFi, Ethernet and Power over Ethernet (vNet)
Mounting	Magnetic strips; 3M Dual Lock™ fasteners
PC Software	Graphing & Reporting: Spectrum, vLog (FDA/GxP regulated) Monitoring, Alarming, Reporting: viewLinc OPC Server to add loggers to an existing OPC-compatible monitoring system.
Internal Clock	Accuracy ± 1 min./month@ -25 °C to +70 °C (-13 °F to +158 °F)
Electromagnetic Compatibility	FCC Part 15 and CE, EN 55022:2006, EN 61000-4-2:2001, EN 61000-4-3:2006
Power Source	Internal 10-year lithium battery (Battery life specified with sample interval of 1 min. or longer)

Memory

Sample Capacity	122,197 12-bit samples
Memory Type	Non-volatile EEROM
Memory Modes	User-selectable wrap (FIFO) or stop when memory is full. Userselectable start and stop times.
Sampling Rates	User-selectable (in 10 second intervals) from once every 10 seconds to once a day. (Battery life specified with sample interval of 1 min. or longer)

Internal Sensors

INTERNAL TEMPERATURE SENSOR	
Calibrated Measurement Range ¹	-25 °C to +70 °C (-13 °F to +158 °F)
Operating Range	-35 °C to +85 °C (-31 °F to +185 °F)
Initial Accuracy ²	± 0.10° C over +20 °C to +30 °C (± 0.18° F over +68 °F to +86 °F) ± 0.15° C over -25 °C to +70 °C (± 0.27 °F over -13 °F to +158 °F)
One Year Accuracy ³	± 0.15 °C over +20 °C to +30 °C (± 0.27 °F over +68 °F to +86 °F) ± 0.25 °C over -25 °C to +70 °C (± 0.45 °F over -13 °F to +158 °F)
Resolution	0.02 °C at +25 °C (0.04 ° F at +77 °F)

INTERNAL RH SENSOR	
Calibrated Measurement Range ¹	45 %RH at +10 °C (+50 °F) 10 %RH to 80 %RH at +25 °C (+77 °F) 45 %RH at +45 °C (+113 °F)
Operating Range	0 %RH to 100 %RH (non-condensing)
Initial Accuracy ²	± 1 %RH over 10 %RH to 90 %RH at +20 °C to +30 °C (+68 °F to +86 °F) ± 2 %RH over 10 %RH to 90 %RH at -20 °C to +70 °C (-4 °F to +158 °F)
One Year Accuracy ³	± 2 %RH over 10 %RH to 90 %RH at +20 °C to +30° C (+68 °F to +86 °F) ± 3 %RH over 10 %RH to 90 %RH at -20 °C to +70 °C (-4 °F to +158 °F)
Resolution	0.05 %RH

- ¹ Custom calibration points available upon request including full ICH coverage.
- ² Initial accuracy includes all known influence quantities present at the time of calibration including calibration uncertainty, mathematical fit, data logger resolution, hysteresis and reproducibility.
- ³ One Year Accuracy includes all known influence quantities present during the operation of a data logger over the course of one year including Initial Accuracy and Long Term Drift. Not included is any drift related to atypical contamination or misuse.

Current Loop and Voltage Inputs

INPUT TYPE	CURRENT LOOP	ANALOG VOLTAGE
Available Ranges	0 to 22 mA	0 to 5 VDC, 0 to 10VDC
Resolution	5.5 µA	0.025 % FS.
Accuracy	±0.15 % FS.at +25 °C (+77 °F)	±0.15 % FS.at +25 °C (+77 °F)
Input Impedances	75 Ohms*	>1 MOhm
Isolation	One common per logger	One common per logger
Overload Protection	40 mA max. (reverse-polarity protected)	±24VDC max. (reverse-polarity protected)

Channel Configuration and Recording Span

MODEL NUMBER	CHANNEL TYPES			
	CH 1	CH 2	CH 3	CH 4
2000-3CR	Temperature	Relative Humidity	Current to 20 mA	
2000-35R	Temperature	Relative Humidity	Voltage to 5 VDC	
2000-3AR	Temperature	Relative Humidity	Voltage to 10 VDC	
2000-4BR	Temperature	Relative Humidity	Boolean	Boolean

SAMPLE INTERVAL	NUMBER OF CHANNELS ENABLED**			
	1	2	3	4
10 Seconds	14.1 Days	7.1 Days	4.7 Days	3.5 Days
1 Minute	2.8 Months	1.4 Months	23.8 Days	21.2 Days
5 Minutes	1.2 Years	7.1 Months	4.7 Months	3.5 Months
15 Minutes	3.5 Years	1.7 Years	1.2 Years	10.6 Months
1 Hour	13.9 Years	7.0 Years	4.6 Years	3.5 Years

* Termination resistance plus approximately 0.4 volt drop through a protection diode. ** Temperature channel must be enabled when the RH channel is enabled.



For more information, visit www.vaisala.com or contact us at sales@vaisala.com

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