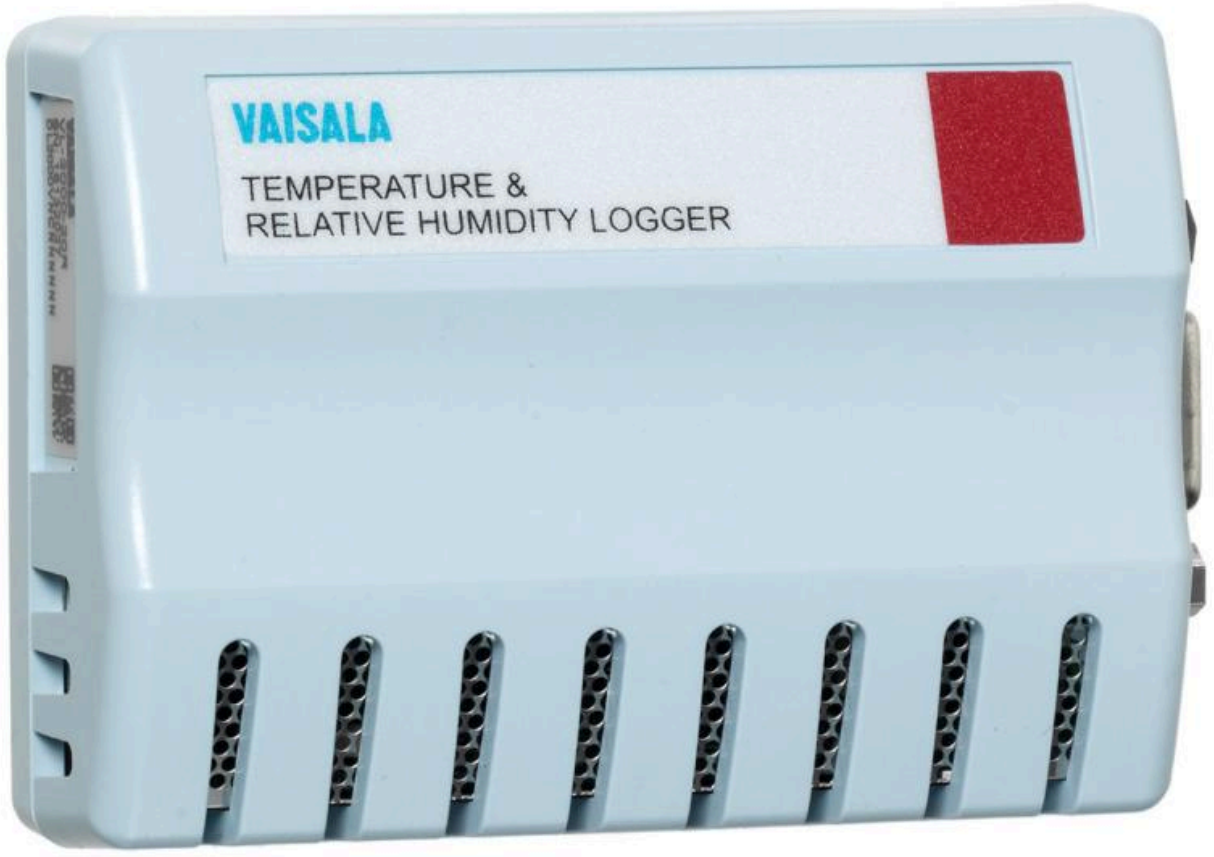
akribis

DATASHEET

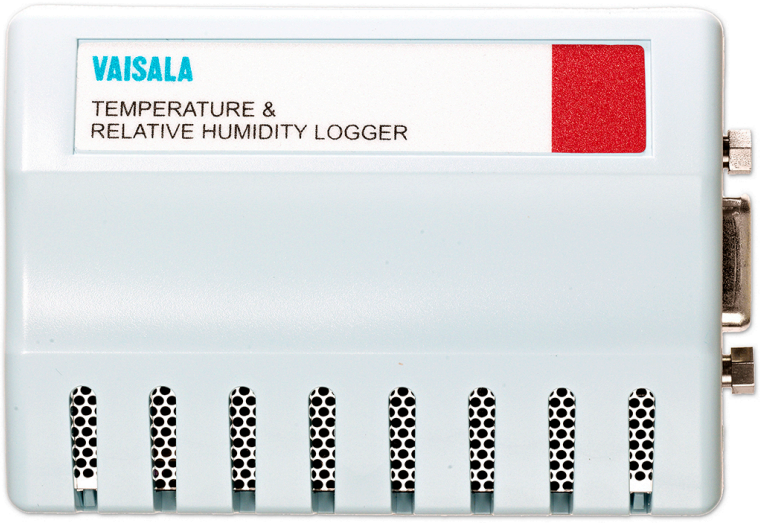
DL2000

Vaisala · Authorized Partner

Distributed by AKRIBIS



VAISALA DL2000 Temperature and RH Data Logger



Features

- Industry-leading temperature and relative humidity measurement precision
- High accuracy, adjustable timebased digital recording
- Printed reports for any time period
- 10-year battery
- Ability to perform validation and continuous monitoring with the same model
- Traceable to SI units through national metrology institutes
- Superior alternative to chart recorders and hard-wired systems
- Integrated high-accuracy RH sensor

Vaisala's 2000 series of data loggers are designed to provide high accuracy measurements for temperature, relative humidity and an analog sensor of your choice.

The 2000 logger combines internal temperature and RH sensors with optional external channels for either current or voltage inputs for recording parameters such as differential pressure, CO2, level, particles, or conductivity. The 2000 logger can also include a Boolean channel for door switches or alarm contacts. The 2000 logger includes calibrations traceable to SI units through national metrology institutes.[1)]

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

The DL2000 data loggers can be used with Vaisala software, either viewLinc or vLog, to download, display, and analyze environmental data. The viewLinc monitoring system provides 24/7 multi-stage alarm notification, remote, real-time monitoring and gap-free data. The vLog software is a simple solution for validation/ mapping applications.

The measurement results are traceable to the international system of units (SI) through national metrology institutes (NIST USA, MIKES Finland, or equivalent) or ISO/IEC 17025 accredited calibration laboratories.

All reports are customizable and can be exported to spreadsheets and PDF to provide records that meet the requirements of 21 CFR Part 11 and Annex 11.

1) *The measurement results are traceable to the international system of units (SI) through national metrology institutes (NIST USA, MIKES Finland, or equivalent) or ISO/IEC 17025 accredited calibration laboratories.*

Technical Data

General

Size	85 × 59 × 26 mm (3.4 × 2.3 × 1 in)
Weight	76 g (2.7 oz.)
Interfaces	RS-232 serial, USB, WiFi, Ethernet and Power over Ethernet (vNet)
Mounting	3M Dual Lock™ fasteners
Power source	Internal 10-year lithium battery (Battery life specified at +23 °C with sample interval of 1 min or longer)
Internal clock	Accuracy ±1 min/month at -25 °C ... +70 °C (-13 ... +158 °F)
Electromagnetic compatibility	FCC Part 15 and CE EN 50581:2012 EN 55032:2012/AC:2013 Class B EN 61326-1:2013
RoHS compliance	2011/65/EU
PC Software	
Monitoring, alarming and reporting	viewLinc
Validation/mapping GxP environments	vLog VL for validated vLog SP for non validated
Adding loggers to an existing OPC-compatible monitoring system	OPC Server

Channel Configuration and Recording Span

	Channel Types			
Model	**CH 1**	**CH 2**	**CH 3**	**CH 4**
2000-20R	T	RH		
2000-3CR	T	RH	4 ... 20 mA	
2000-35R	T	RH	0 ... 5 VDC	
2000-3AR	T	RH	0 ... 10 VDC	
2000-4BR	T	RH	Boolean	Boolean
	Number of Channels Enabled[1]			
Sample Interval	**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

1) Temperature channel must be enabled when the RH channel is enabled.

Memory

Sample capacity	122 197 12-bit samples
Memory type	Non-volatile EEPROM
Memory modes	User-selectable wrap (FIFO) or stop when memory is full. User-selectable start and stop times.
Sampling rates	User-selectable from once every 10 seconds to once a day.

Internal Sensors

Internal Temperature Sensor	
Calibrated measurement range[1]	-25 ... +70 °C (-13 ... +158 °F)
Operating range	-35 ... +85 °C (-31 ... +185 °F)
Initial accuracy[2]	
± 0.10 °C over +20 °C ... +30 °C (± 0.18 °F over +68 °F ... +86 °F)	
± 0.20 °C over -25 °C ... +70 °C (± 0.36 °F over -13 °F ... +158 °F)	
One Year Accuracy[3]	
± 0.15 °C over +20 °C ... +30 °C (± 0.27 °F over +68 °F ... +86 °F)	
± 0.25 °C over -25 °C ... +70 °C (± 0.45 °F over -13 °F ... +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 ... 80 %RH at +25 °C (+77 °F) 45 %RH at +45 °C (+113 °F)
Operating range	0 ... 100 %RH (non-condensing)
Initial accuracy[2]	± 1 %RH over 10 ... 80 %RH at +20 ... +30 °C (+68 ... +86 °F) ± 1.5 %RH over 80 ... 90 %RH at +20 ... +30 °C (+68 ... +86 °F) ± 2 %RH over 10 ... 90 %RH at -20 ... +70 °C (-4 ... +158 °F)
One year accuracy[3]	± 2 %RH over 10 ... 90 %RH at +20 ... +30 °C (+68 ... +86 °F) ± 3 %RH over 10 ... 90 %RH at -20 ... +70 °C (-4 ... +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 ... 22 mA	0 ... 5 VDC, 0 ... 10 VDC
Resolution	5.5 µA	0.025 % F.S.
Accuracy	±0.15 % F.S. at +25 °C (+77 °F)	±0.15 % F.S. at +25 °C (+77 °F)
Input impedances	75 Ω[1]	>1 MΩ
Isolation	One common per logger	One common per logger
Overload protection	40 mA max. (reverse-polarity protected)	±24 VDC max. (reverse-polarity protected)

1) Termination resistance plus approximately 0.4 volt drop through a protection diode.

CE

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