

Vaisala DL1000-1400 Temperature Data Logger



Applications

Ideal for Monitoring & Validation of:

- Refrigerators & Freezers (to -90 °C)
- Incubators
- Stability Chambers
- Warehouses
- Ambient conditions

Features/Benefits

- Industry-leading precision and accuracy
- Ideal for low temperature environments - to -25 °C
- Printed reports for any time period
- 10-year battery
- Validation and continuous monitoring with the same model
- Two year limited warranty
- Superior alternative to chart recorders and hard-wired systems
- NIST-traceable calibration accredited to ISO/IEC 17025
- Timebase calibrated over the operating temperature range
- Adjustable time based recording
- Snap-in logger cradle for easy network connectivity
- Three probe options give high accuracy - from -90 °C to +70 °C

The 1000/1400 temperature data loggers include the VL-series for regulated environments and the SP-series for non FDA/GxP regulated industries. The VL-series of data loggers, together with vLog VL software, provide a superior, high accuracy solution for use in FDA/GxP regulated environments by ensuring tamperproof files and electronic records that meet 21 CFR Part 11 requirements. The SP-series provides a compact, easily deployable, highly

accurate measurement and recording device. Coupled with vLog SP software for downloading, displaying, analyzing and reporting of recorded environmental data, the SP-series was designed for use in non FDA/GxP regulated environments. Optional browser-based viewLinc software provides 24/7 multi-stage alarm notification and remote monitoring for both the VL and SP series of data loggers.

Technical Data

General

Size	85 x 59 x 26 mm (3.4 x 2.3 x 1") 76 g (2.7oz)
Interfaces	RS-232 serial, USB, Ethernet, WiFi, PoE network interface available
Mounting	Magnetic strips, 3M Dual Lock™ Fasteners Snap-in connector locks provide secure probe connections
PC Software	Graphing & Reporting Software vLog SP for SP-series vLog VL for VL-series viewLink for continuous monitoring & alarming OPC Server to add on to existing OPC compatible monitoring systems
Internal Clock	Accuracy ±1 min. /month -25 °C to +70 °C (-13 °F to +158 °F)
Electromagnetic Compatibility	FCC Part 15 and CE
Power Source	Internal 10-year lithium battery (Battery life specified with sample interval of 1 min. or longer)
Logger Operating/Storage Range	-40 °C to +85 °C (-40 °F to +185 °F) 0 %RH to 100 %RH non-condensing

Internal Temperature Sensor

Series	Sensor Type
1000-21x	Precision-tolerance epoxy-encapsulated NTC thermistor

Memory

Data Sample Capacity	
1000-2XX	48,100 12-bit samples
1400-44X	85,300 12-bit samples
Memory Type	Non-volatile EEPROM
Memory Modes	User selectable: wrap (FIFO) or stop when memory is full. User selectable start time. User selectable stop time (VL series only).
Sampling Rates	User-selectable (in 10 second intervals) from once every 10 seconds to once a day.

Recording Span: 1000-2xx

SAMPLE INTERVAL	NUMBER OF CHANNELS ENABLED	
	1	2
10 Seconds	5.5 Days	2.7 Days
1 Minute	1.1 Months	16.7 Days
5 Minutes	5.5 Months	2.7 Months
15 Minutes	1.3 Years	8.3 Months
1 Hour	5.4 Years	2.7 Years



VL-1000-21x



VL-1000-22x

Recording Span: 1400-44x

SAMPLE INTERVAL	NUMBER OF CHANNELS ENABLED			
	1	2	3	4
10 Seconds	9.8 Days	4.9 Days	3.2 Days	2.4 Days
1 Minute	1.9 Months	29.6 Days	19.7 Days	14.8 Days
5 Minutes	9.8 Months	4.9 Months	3.2 Months	2.4 Months
15 Minutes	2.4 Years	1.2 Years	9.8 Months	7.4 Months
1 Hour	9.7 Years	4.8 Years	3.2 Years	2.4 Years



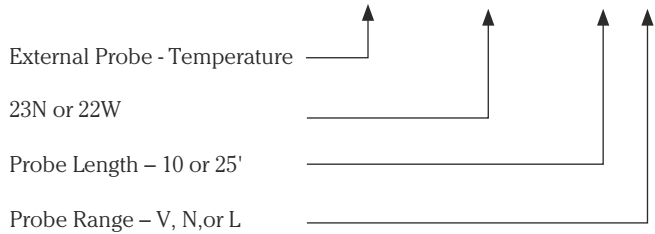
VL-1400-44x

EPT Series Temperature Probes

Sensor Models

"N" Range External Probes	EPT-23N-XXN and EPT-22W-XXN
Operating/Storage Range	-40 °C to +95 °C (-40 °F to +203 °F)
Connector Color Code	Black
"L" Range External Probes	EPT-23N-XXL and EPT-22W-XXL
Operating/Storage Range	-60 °C to +95 °C (-76 °F to +203 °F)
Connector Color Code	Green
"V" Range External Probes	EPT-23N-XXV and EPT-22W-XXV
Operating/Storage Range	-95 °C to +95 °C (-139 °F to +203 °F)
Connector Color Code	Blue

EPT - XXX - XXX



Sensor Tips

EPT-23N-XXX	Stainless Steel Diameter 3.2 mm (1/8") Length 38 mm (1.5")
EPT-22W-XXX (liquid submersible)	Sealed Teflon Tip Diameter 3 mm (0.12") Length 28 mm (1.1")
Probe Lengths	3 m (10') and 7.6 m (25')
Cable Construction	2mm (0.07") Diameter Teflon coated cable

Temperature Probe Accessories

Thermal Dampening Block, for use in refrigerators and freezers, simulates a glycol bottle to reduce viewLinc alarms generated by opening and closing a door.



Product Part Number Legend: Guide for reading the product tables and selecting the most appropriate model for your application.

XX - 1000 - XXX

Series Type: VL (Validatable) or SP

Series Number: Series 1000: 2 Channel,
Series 1400: 4 Channel

Total Number of Channels: 2/4

Number of External Channels: 1/2/4

External Channel Temperature Range:

Please refer to the Temperature Range and Accuracy table below for external probe options.

Temperature Range and Accuracy

Internal Sensor

Calibrated	
Measurement Range	-25 °C to +70 °C (-13 °F to +158 °F)
Operating/Storage Range	-40 °C to +85 °C (-40 °F to +185 °F)
Initial Accuracy	0 %RH to 100 %RH non-condensing +/-0.10 °C over +20 °C to +30 °C (+/-0.18 °F over +68 °F to +86 °F) +/- 0.2 °C over -25 °C to +70 °C (+/- 0.36 °F over -13 °F to +158 °F)
One Year Accuracy	+/-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)

External Probes - All Models

"N" RANGE EXTERNAL PROBE

Calibrated	
Measurement Range	-25 °C to +70 °C (-13 °F to +158 °F)
Operating/Storage Range	-40 °C to +95 °C (-40 °F to +203 °F)
Initial Accuracy*	+/-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*	+/-0.2 °C over +20 °C to +30 °C (+/-0.36 °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)

"L" RANGE EXTERNAL PROBE

Calibrated	
Measurement Range	-50 °C to +10 °C (-58 °F to +50 °F)
Operating/Storage Range	-60 °C to +95 °C (-76 °F to +203 °F)
Initial Accuracy*	+/-0.15 °C over -50 °C to +10 °C (+/-0.27 °F over -58 °F to +50 °F)
One Year Accuracy*	+/-0.25 °C over -50 °C to +10 °C (+/-0.45 °F over -58 °F to +50 °F)
Resolution	0.02 °C at -20 °C (0.04 °F at -4 °F)

"V" RANGE EXTERNAL PROBE

Calibrated	
Measurement Range	-90 °C to -40 °C (-130 °F to -40 °F)
Operating/Storage Range	-95 °C to +95 °C (-139 °F to +203 °F)
Initial Accuracy*	+/- 0.2 °C over -90 °C to -40 °C (+/- 0.36 °F over -130 °F to -40 °F)
One Year Accuracy*	+/-0.25 °C over -90 °C to -40 °C (+/-0.45 °F over -130 °F to -40 °F)
Resolution	0.02 °C at -80 °C (0.04 °F at -112 °F)

*Specification for external channels is for a probe calibrated to the specific channel of the data logger and with the data logger at -25 °C to +70 °C (-13 °F to +158 °F)

VAISALA

www.vaisala.com

Please contact us at
www.vaisala.com/requestinfo



Scan the code for more information

Ref. B211044EN-C ©Vaisala 2014
This material is subject to copyright protection, with all copyrights retained by Vaisala and its individual partners. All rights reserved. Any logos and/or product names are trademarks of Vaisala or its individual partners. The reproduction, transfer, distribution or storage of information contained in this brochure in any form without the prior written consent of Vaisala is strictly prohibited. All specifications — technical included — are subject to change without notice.

