



# DL1000-1400 Temperature Data Logger



## Features

- Industry-leading precision and accuracy
- 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
- Timebase calibrated over the operating temperature range
- Adjustable time based recording
- Snap-in logger cradle for easy network connectivity
- Two probe options give high accuracy – from -90 °C to +70 °C
- Traceable to SI units through national metrology institutes.

The 1000/1400 temperature data loggers include the VL series for regulated environments and the SP series for non FDA/GxP regulated industries.

## VL series and SP series dataloggers

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 1000/1400 temperature data loggers include calibrations traceable to SI units through national metrology institutes.<sup>1)</sup>

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.

## Applications

The 1000/1400 temperature data loggers are ideal for monitoring and validation of:

- Refrigerators and freezers (to -90 °C)
- Incubators

- Stability Chambers
- Warehouses
- Ambient conditions

## Autonomous Power and Recording Capacity

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.

<sup>1)</sup> 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

Interfaces	RS-232 serial, USB, Ethernet, WiFi, PoE network interface available
PC software	Graphing & Reporting Software vLog SP for SP series vLog VL for VL series viewLinc for continuous monitoring and alarming OPC Server to add on to existing OPC compatible monitoring systems
Internal clock	Accuracy ±1 min/month -25 °C ... +70 °C (-13 °F ... +158 °F)
Logger operating/ Storage range	-40 °C ... +85 °C (-40 °F ... +185 °F) 0 ... 100 %RH non-condensing
Power source	Internal 10-year lithium battery (Battery life specified with sample interval of 1 min or longer)
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



VL-1000-21x

## Mechanical Specifications

Size	85 × 59 × 26 mm (3.4 × 2.3 × 1 in)
Weight	76 g (2.7 oz)
Mounting	3M Dual Lock™ fasteners Snap-in connector locks provide secure probe connections

## Internal Temperature Sensor

1000-21x series	Precision-tolerance epoxy-encapsulated NTC thermistor
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## Memory

1000-2XX series	48 100 12-bit samples
1400-44X series	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.



VL-1000-22x

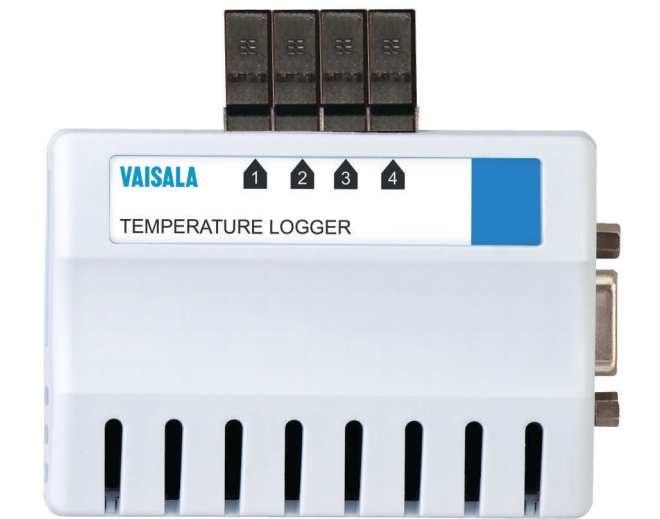
## Recording Span: 1000-2xx

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

# Technical Data

## Recording Span: 1400-44x

	Number of Channels Enabled			
Sample Interval	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

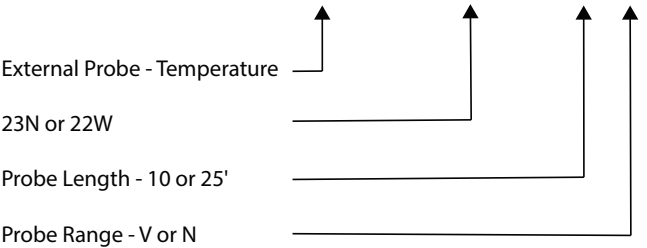
Sensor Models	
"N" range external probes	EPT-23N-XXN and EPT-22W-XXN
Operating/storage range	-40 °C ... +95 °C (-40 ... +203 °F)
Connector color code	Black
"V" range external probes	EPT-23N-XXV and EPT-22W-XXV
Operating/storage range	-95 °C ... +95 °C (-139 ... +203 °F)
Connector color code	Blue
Sensor Tips	
EPT-23N-XXX	Stainless steel Diameter 3.2 mm (0.13 in) Length 38 mm (1.5 in)
EPT-22W-XXX (liquid submersible)	Sealed teflon tip Diameter 3 mm (0.12 in) Length 28 mm (1.1 in)
Probe lengths	3 m (10 ft) and 7.6 m (25 ft)
Cable construction	2 mm (0.08 in) 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.



## EPT - XXX - XXX



# Technical Data

## Temperature Range and Accuracy

### Internal Sensor

Calibrated measurement range	-25 ... +70 °C (-13 ... +158 °F)
Operating/storage range	-40 ... +85 °C (-40 ... +185 °F) 0 ... 100 %RH non-condensing
Initial accuracy	±0.10 °C over +20 ... +30 °C (±0.18 °F over +68 ... +86 °F) ±0.20 °C over -25 ... +70 °C (±0.36 °F over -13 ... +158 °F)
One year accuracy	±0.15 °C over +20 ... +30 °C (±0.27 °F over +68 ... +86 °F) ±0.25 °C over -25 ... +70 °C (±0.45 °F over -13 ... +158 °F)

### External Probes - All Models

#### "N" Range External Probe

Calibrated measurement range	-25 ... +70 °C (-13 ... +158 °F)
Operating/storage range	-40 ... +95 °C (-40 ... +203 °F)
Initial accuracy <sup>1)</sup>	±0.10 °C over +20 ... +30 °C (±0.18 °F over +68 ... +86 °F) ±0.15 °C over -25 ... +70 °C (±0.27 °F over -13 ... +158 °F)
One year accuracy <sup>1)</sup>	±0.20 °C over +20 ... +30 °C (±0.36 °F over +68 ... +86 °F) ±0.25 °C over -25 ... +70 °C (±0.45 °F over -13 ... +158 °F)

Resolution	0.02 °C at +25 °C (0.04 °F at +77 °F)
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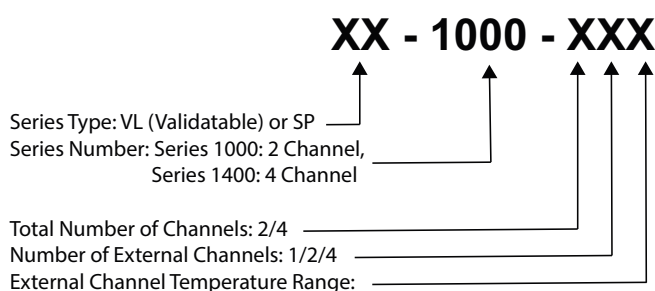
#### "V" Range External Probe

Operating/storage range	-95 ... +95 °C (-139 ... +203 °F)
Initial accuracy <sup>1)</sup>	±0.20 °C over -90 ... -40 °C (±0.36 °F over -130 ... -40 °F)
One year accuracy <sup>1)</sup>	±0.25 °C over -90 ... -40 °C (±0.45 °F over -130 ... -40 °F)
Resolution	0.02 °C at -80 °C (0.04 °F at -112 °F)
Calibrated measurement range	-90 ... -40 °C (-130 ... -40 °F)

<sup>1)</sup> 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 ... +70 °C (-13 °F ... +158 °F)

## Product Part Number Legend

Guide for reading the product tables and selecting the most appropriate model for your application.



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