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Vaisala Thermocouple Data Logger Series 1700

Applications

- Ideal for extreme temperatures from -240 °C to 1760 °C
- Accepts type J, K, T, E, R and S thermocouples
- No programming or complicated equations required
- Highly accurate replacement for bulky data acquisition systems
- NIST-traceable calibration

The Vaisala DL1700 series data loggers provide highly accurate temperature data acquisition and are ideal for demanding environments. The DL1700 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. 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.

Easy to use with standard thermocouples, these compact data loggers can offer up to five channels of data in temperatures ranging from -240 °C to +1760 °C.

We offer models for both validated and non-validated applications. Choose the DL1700VL for GxP-compliant environments and the DL1700SP for non-validated applications.

Technical Data

General

Size	3.4 x 2.1 x 1" (85x59x26mm); 60g (2.7 oz)
Operating Range	-40 °C to +85 °C (-40 °F to +185 °F) and 0 %RH to 100 %RH (non-condensing)
Interfaces	RS-232 serial, USB, Ethernet, WiFi network interface available
Mounting	Magnetic strips, 3M Dual Lock™ fasteners
Software	viewLinc for Monitoring, Alarming & Reporting vLog for Validation/Mapping GxP environments Spectrum for graphing & reporting non-GxP environments
Internal Clock	Accuracy: ±1 min./month at -25°C to +70°C
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)

Data Logger Inputs

1700 MODEL	NUMBER OF CHANNELS ENABLED		
	Thermocouple	CJT	Total
1700-54T	4	1	5

Note: One channel is designated for Cold Junction Temperature (CJT) reference using an on-board precision-tolerance thermistor.

Thermocouple Input Channels

COMPATIBLE THERMOCOUPLE TYPES: J, K, T, E, R, S

INITIAL ACCURACY:

Input Range	Resolution	Initial Accuracy
-7.2 to +55.4 mV	0.016 mV	±0.042 mV @ +25 °C (+77 °F)

INPUT IMPEDANCE: 10M OHMS

Input Range	Resolution	1-Year Accuracy
-7.2 to +55.4 mV	0.016 mV	±0.055 mV @ +25 °C (+77 °F)

Additional error at 3 V/m RF field from
450 MHz ... 580 MHz: ±0.350 mV
And at 3 V conducted RF from 3 MHz … 80 MHz: ±1.0 mV

Temperature Accuracy

	TYPE K	TYPE J	TYPE T	TYPE E	TYPE R	TYPE S
Temperature Measurement Range	-220 °C to +1370 °C (-364 °F to +2498 °F)	-130 °C to +900 °C (-202 °F to +1652 °F)	-240 °C to +350 °C (-400 °F to +662 °F)	-110 °C to +740 °C (-166 °F to +1364 °F)	-50 °C to +1760 °C (-58 °F to +3200 °F)	-50 °C to +1700 °C (-58 °F to +3092 °F)
Instrument Temperature Accuracy at mid-range*	±1.3 °C (±2.3 °F)	±1.0 °C (±1.8 °F)	±1.2 °C (±2.2 °F)	±0.70 °C (±1.3 °F)	±4.4 °C (±7.9 °F)	±5.1 °C (±9.2 °F)
Resolution at mid-range	0.37 °C (0.67 °F)	0.29 °C (0.52 °F)	0.34 °C (0.61 °F)	0.20 °C (0.36 °F)	1.3 °C (2.3 °F)	1.5 °C (2.7 °F)

* Listed accuracies are for data logger only at 25°C (+77°F). They do not include the accuracy of the thermocouple probe or cold junction compensation or electromagnetic interference.

Cold Junction Temperature Channel

Measurement Range	-40 °C to +85 °C (-40 °F to +185 °F)
Accuracy	±0.25 °C over +20 °C to +30 °C (±0.45 °F over +68 °F to +86 °F) ±0.35 °C over -25 °C to +70 °C (±0.63 °F over -13 °F to +158 °F)

ACCESSORIES:

Thermocouple probe	EPT-22T-20T
Type	T
Conductors	Copper/Constantan
Operating range	-200°C to 200°C (-328°F to 392°F)
Length	6.096 meters
Error	±1°C to ±1.5%

Memory

Memory Type	Non-volatile EEROM
Data Sample Capacity	135,165 12-bit samples
Memory Modes	User-selectable wrap (FIFO) or stop when memory is full. User-selectable start time.
Sampling Rates	User-selectable from once every 10 seconds to once a day. (Battery life specified with sample interval of 1 min. or longer)
Recording Span	Recording span depends upon sample interval selected and number of channels enabled.

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