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DATASHEET

DL1416

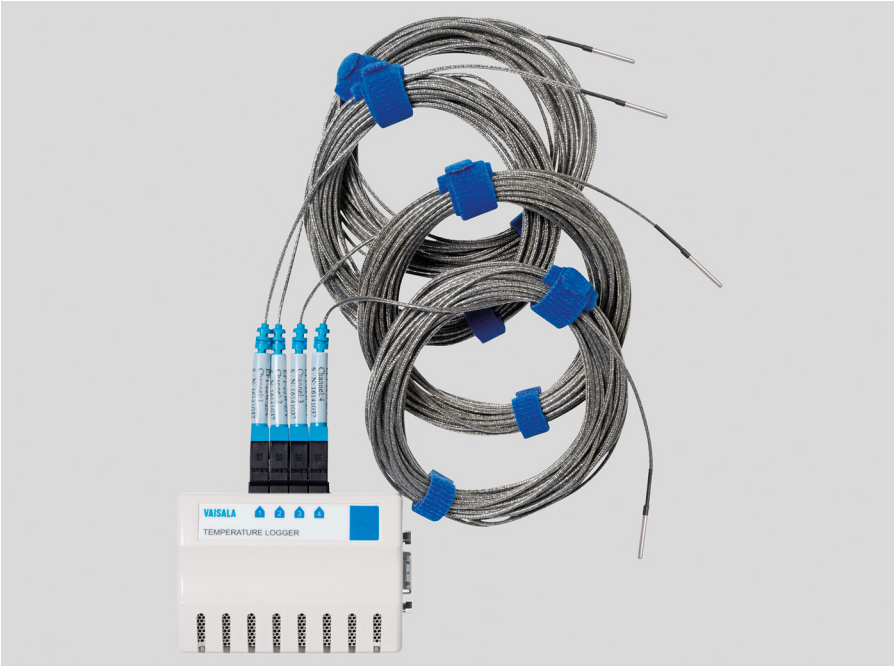
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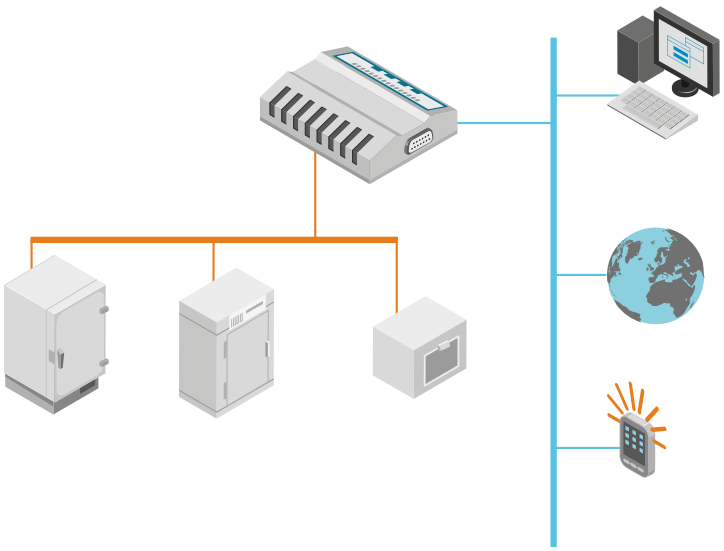
DL1016-1416 Multi-application Temperature Data Logger



Features

- Industry-leading precision and accuracy
- Real-time monitoring & alarming with viewLinc software
- Reliable validation/mapping with vLog software
- Easy connectivity to your existing network – wired or wireless
- Validation and continuous monitoring with the same data logger
- Superior alternative to chart recorders and hard-wired systems
- Traceable to SI units through national metrology institutes

Vaisala's multi-application temperature data loggers monitor temperatures in up to four applications with one logger – ultra-low temperature freezers, freezer/ refrigerators and incubators.



DL1016-1416 data loggers include calibrations traceable to SI units through national metrology institutes.[1)]

Choose the DL1016-1416 VL series data logger for GxP-compliant environments and the DL1016-1416 SP series for non-GxP applications.

Model numbers and channels

- VL-1016-22V: Two external channels for validatable applications
- VL-1416-44V: Four external channels for validatable applications
- SP-1016-22V: Two external channels
- SP-1416-44V: Four external channels

DL1016-1416 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.

1) *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 specifications

Interfaces	• Internal: RS-232 serial • With additional connectors/ devices: USB, Ethernet, Wi-Fi, PoE
Software	• vLog software for graphing and reporting • viewLinc Enterprise Server software for continuous monitoring and alarming • OPC Server to add Vaisala recorders to any OPC-compatible monitoring system
Internal clock accuracy	±1 min/month 0 ... +50 °C (+32 ... +122 °F)
Power source	Lithium battery with typical lifetime of 10 years [1]

1) Typical battery life specified with sample interval of 1 min or longer.

Measurement performance

Sensor	"V" Range External Probe
Calibrated measurement range	−90 ... +50 °C (−130 ... +122 °F)
Operating range	−95 ... +70 °C (−139 ... +158 °F)
Initial accuracy [1]	±0.25 °C over −90 ... +50 °C (±0.45 °F over −130 ... +122 °F)
One year accuracy [1]	±0.35 °C over −90 ... +50 °C (±0.63 °F over −130 ... +122 °F)
Resolution	0.01 °C at +25 °C (0.02 °F at +77 °F)

1) Specification for external channels is for a probe calibrated to the specified channel of the data logger, with the logger at 0 °C to +50 °C (+32 °F to +77 °F).

Memory

1016 Series	68 600 16-bit samples
1416 Series	101 375 16-bit samples
Memory type	Non-volative EEPROM
Memory modes and sampling rates	User-selectable rates from once every 10 seconds to once per day (with sample interval of ≥1 min)

Operating environment

Operating temperature	0 ... +50 °C (+32 ... +122 °F)
Operating humidity	0 ... 100 %RH non-condensing
Storage temperature	−40 ... +85 °C (−40 ... +185 °F)
Storage humidity	0 ... 100 %RH non-condensing

Recording span: 1016-22V

	Number of channels enabled	
Sample interval	**1**	**2**
1 minute	1.5 months	23.8 days
5 minutes	7.6 months	3.8 months
15 minutes	1.9 years	11.5 months
1 hour	7.8 years	3.9 years

Recording span: 1416-44V

	Number of channels enabled			
Sample interval	**1**	**2**	**3**	**4**
1 minute	2.3 months	1.1 months	23.5 days	17.6 days
5 minutes	11.3 months	5.6 months	3.7 months	2.8 months
15 minutes	2.8 years	1.4 years	11.3 months	8.5 months
1 hour	11.5 years	5.7 years	3.8 years	2.8 years

Thermistor probes

Sensor	"V" range external probe
Operating temperature	−95 ... +70 °C (−139 ... +158 °F)
Connector color code	Blue
Probe length	3 m (10 ft) and 7.6 m (25 ft) lengths available
Cable construction	2 mm (0.07 in) diameter, Teflon coated cable
Stainless steel sensor tip	
Diameter	3.2 mm (1/8 in)
Length	38 mm (1.5 in)
Sealed Teflon sensor tip	
Diameter	3 mm (0.12 in)
Length	28 mm (1.1 in)

Mechanical specifications

Dimensions	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

Compliance

EU directives	EMC Directive (2014/30/EU) RoHS Directive (2011/65/EU) amended by 2015/863
EMC compatibility	EN 61326-1, industrial environment
EMC emissions	EN 55032:2012/AC:2013 Class B
Compliance marks	CE, FCC Part 15

Spare parts and accessories

Immersion/Dry probes	
Thermistor V range probe 25 ft	235139SP
Thermistor V range probe 10 ft	235218SP
Thermistor immersion V range probe 25 ft	235140SP
Thermistor immersion V range probe 10 ft	235217SP
Temperature probe accessories	
Thermal dampening block, for use in refrigerators and freezers. The block simulates a glycol bottle to reduce alarms generated by opening and closing a door.	EPT-TDB-2

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