Data logger, NanoVACQ T

TMI-Orion

NanoVACQ Temperature



Temperature control inside cans, pouches, trays, packaging.
Autoclave validation, pasteurization, ovens, dryers, freezer mapping, freeze-drying processes

NanoVACQ Temperature is a data logger with 1 to 3 sensors, watertight under pressure up to 30 bar.

Its ruggedness allows temperature measurement in harsh industrial environments.

There are many models available, answering most industrial needs. They vary by many aspects: number and type of probes, temperature operating range, battery capacity.

METROLOGY

Operating range	Batteries	Temperature and noise resolution	Uncertainty*
From 0°C to +125°C	014Z	16 bit converter, resolution: <±0.04 °C	+/- 0.1°C from -80°C to +140°C (+/- 0.05°C upon request)
From -55°C to +140°C	ROUTINE-HE		
From -90°C to +85°C	014ZFL		

Each logger can be calibrated and adjusted at the temperature points corresponding to the user's needs.

**The specified uncertainties correspond to two standard deviations. The uncertainties are calculated taking into account the various significant error sources, including the calibration probes, the equipment, the environmental conditions, the influence of the logger, repeatability, etc…*

FUNCTIONS

- Start set up: immediate or delayed
- Memory set up: stop at maximum capacity / loop writing
- Time stamped measurement data
- Battery level alert with Qlever software



TECHNICAL SPECIFICATIONS

Model	Number of channels	Probe type	Probe dimensions	Water tightness	ATEX compliant
NanoVACQ 1Tc	1	Rigid (316L SS)	D. 3 mm, L. up to 200 mm or D. hybrid 3 > 1.9 mm, L. 30 mm	●	
NanoVACQ 1Tc Ex	1	Rigid (316L SS)	D. 3 mm, L. up to 120 mm	●	●
NanoVACQ 2Tc	2	Rigid (316L SS)	D. 3 mm, L. up to 200 mm or D. hybrid 3 > 1.9 mm, L. 30 mm	●	
NanoVACQ 1Td	1	Semi-rigid (316L SS)	D. 2 mm, L. from 60 mm to 1150 mm	●	
	1	1 rigid tip at the end of 1 flexible deport (Teflon®)	D.3 mm, L. from 20 to 100 mm D.3 mm, L. from 100 to 1000 mm	●	
	1	1 rigid tip at the end of 1 flexible deport (Viton®)	D.3 mm, L. from 20 to 100 mm D.5 mm, L. from 100 to 1000 mm		
NanoVACQ 1Td Ex	1	Semi-rigid (316L SS)	D. 2 mm L. from 100 mm to 1150 mm	●	●
NanoVACQ 2Td	2	Semi-rigid (316L SS)	D. 2 mm, L. from 60 mm to 1150 mm	●	
	2	2 rigid tips at the end of 2 flexible deports (Teflon®)	D.3 mm, L. from 20 to 100 mm D.3 mm, L. from 100 to 1000 mm	●	
	2	2 rigid tips at the end of 2 flexible deports (Viton®)	D.3 mm, L. from 20 to 100 mm D.5 mm, L. from 100 to 1000 mm		
NanoVACQ 3Td	3	Semi-rigid (316L SS)	D. 2 mm, L. from 60 mm to 1150 mm	●	
	3	3 rigid tips at the end of 3 flexible deports (Viton®)	D.3 mm, L. from 20 to 100 mm D.5 mm, L. from 100 to 1000 mm		
NanoVACQ 1Tdi	1	1 connector (Fischer)	Connectable probes specifications according to customer request		
NanoVACQ 2Tdi	2	2 connectors (Fischer)			
NanoVACQ 3Tdi	3	3 connectors (Fischer)			
NanoVACQ 1Tc-1Td	2	1 rigid (316L SS) 1 semi-rigid (316L SS)	D. 3 mm, L. 30 mm or D. hybrid 3>1,9 mm, L.30 mm D. 2 mm, L. de 100 mm à 1000 mm	●	
	2	1 rigid (316L SS) 1 rigid tip at the end of 1 flexible deport (Viton®)	D. 3 mm, L. 30 mm or D. hybrid 3>1,9 mm, L.30 mm D. 3 mm, L.20 to 100 mm D.4 mm, L. 100 mm to 1000 mm		
NanoVACQ 1Tc-2Td	3	1 rigid (316L SS) 2 semi rigid (316L SS)	D. 3 mm, L. up to 200 mm or D. hybrid 3 > 1.9 mm, L. 30 mm D. 2 mm, L. from 100 mm to 1000 mm	●	
	3	1 rigid (316L SS) 2 rigid tips at the end of 2 flexible deports (Viton®)	D.3 mm, L. up to 200 mm or D. hybrid 3 > 1.9 mm, L. 30 mm D.3 mm, L. 20-100 mm D.5 mm, L. from 100 to 1000 mm		
NanoVACQ 1Tc-2Tdi	3	1 rigid (316L SS) 2 connectors (Fischer)	D. 3 mm, L. up to 200 mm or D. hybrid 3 > 1.9 mm, L. 30 mm According to customer request		



TECHNICAL SPECIFICATIONS

Material	Logger body: 316L SS	
Dimensions of the logger body	With battery pack 014Z	D.31 mm x H. 31 mm
	With battery pack ROUTINE-HE	D.31 mm x H. 39 mm
	With battery pack 014ZFL	D.31 mm x H. 125 mm
Temperature sensor	Pt 1000 or Pt 100	
Memory capacity	48 000 acquisitions divided by number of measurement channels	
Memory capacity with BigMemory	294 500 acquisitions divided by number of measurement channels	
Acquisition rate	Programmable: minimum 1 second, maximum 59 minutes and 59 seconds	
Program duration	Programmable: days, hours, minutes	
Recording	Programmable start: by date, hour, minute or on temperature threshold	
Power	User replaceable battery pack	
Connectivity	USB wired interface to the PC	
ATEX compliance	Refer to specific documentation	



NanoVACQ 1Tc with hybrid probe



NanoVACQ 1Td with semi-rigid probe



NanoVACQ 1Td with threaded semi rigid probe



NanoVACQ 2Td with Teflon probes



Examples of NanoVACQ Temperature models.

NanoVACQ 3Td with Teflon probes



NanoVACQ 3Td with semi-rigid probes



NanoVACQ 2Tdi with connectable Teflon probes



NanoVACQ 3Tdi with connectable Teflon probes



NanoVACQ 1Tc-2Tdi



AUTONOMY

The NanoVACQ Temperature is powered by a battery pack; its autonomy depends on environment and operational conditions of the application (extreme temperatures, electromagnetic disturbances, data acquisition and transmission rate).

As a result of the variety of environments and operational conditions, TMI-Orion does not guaranty the battery lifetime and recommends that the user determine the battery lifetime according to his own process conditions and experience.

SOFTWARE AND RELATED PRODUCTS

NanoVACQ Temperature is used with Qlever software.

Qlever software platform: data acquisition, management and visualization of data from TMI-Orion data loggers. Qlever is installed on a PC and operates under Windows®Vista/7/8/10. Data transmission and visualization are done after the industrial process.

- NanoVACQ Temperature products family includes NanoVACQ Temperature FullRadio for full wireless data logging real time monitoring.

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