

TMI-Orion

NanoVACQ Temperature Thermocouple



Temperature measurement in thermal processes up to 1300°C with a small thermocouple data logger.

NanoVACQ Thermocouple is a temperature data logger with one to three thermocouple connectors. This solution is specially designed for thermal processes requiring both temperature measurement in industrial environment and quick response time.

METROLOGY

Operating range	Measurement range	Resolution	Internal reference channel calibration uncertainties*
From -55°C to +140°C Thermal shield required above 140°C	Up to 1300°C	$<\pm 0.1^\circ\text{C}$	$\pm 0.1^\circ\text{C}$ from 0°C to +140°C

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 or loop writing
- Time stamped measurement data
- Battery level alert with Qlever software



TECHNICAL SPECIFICATIONS

Model	Internal channel	Number of external channels	Probe type	Connector type	10 Hz version available	Memory extension available	Vibration battery available
NanoVACQ 1Th	●	1	Thermocouple T or K	Cylindrical (Fischer Connectors)	●		
			Thermocouple T, K, N...	Micro-connector			
NanoVACQ 2Th	●	2	Thermocouple T or K	Cylindrical (Fischer Connectors)		●	●
NanoVACQ 3Th	●	3					



NanoVACQ 2Th and NanoVACQ 3Th with cylindrical connectors



NanoVACQ 3Th with cylindrical connectors and 1 connected thermocouple



NanoVACQ 1Th with micro-connector and connected type K thermocouple



NanoVACQ 1Th with micro-connector for type N thermocouple

Material	Logger body: 316L Stainless steel				
Dimensions of the body including connector		Height			Diameter
	Connector type	Cylindrical		Micro-connector	
	Thermocouple type	T	K	T, K, N, ...	
	<ul style="list-style-type: none"> Without option 10Hz version With memory extension 	72 mm	74 mm	112 mm	31 mm
	With vibration battery	78 mm	80 mm	118 mm	
Temperature sensor	Thermocouples – type T, K, or N				
Memory capacity	65 100 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				
Power	User replaceable battery pack				
Connectivity	USB wired interface to the PC				



AUTONOMY

The NanoVACQ Thermocouple is powered by a battery pack; its autonomy depends on environment and operational conditions of the application (extreme temperatures, data acquisition 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 Thermocouple 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 Thermocouple products family includes NanoVACQ Thermocouple Radio for real time reading of data and NanoVACQ Thermocouple FullRadio for full wireless data logging real time monitoring.

DELIVERABLES

The NanoVACQ Thermocouple solution usually includes the following items:

- The NanoVACQ Thermocouple data logger with a battery pack
- The NanoVACQ Thermocouple calibration certificate
- The NanoVACQ Thermocouple configuration and calibration file

- Qlever software platform (to be ordered separately)
- A USB wired interface to the PC - (to be ordered separately)
- A transport case (optional – to be ordered separately)

SERVICES

Maintenance: TMI-Orion recommends annual preventative maintenance and calibration service for the replacement of o-rings, functional checking, calibration and adjustment.

Accessories: The battery packs, engineered by TMI-Orion, are replaceable by the user and are referenced in the documents available on our web site.

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