

Temperature data logger

NanoVACQ Temperature

Control of temperature inside cans, pouches, trays, containers, validation of autoclaves, pasteurization, ovens, dryers, freezers, freeze-dryers...

NanoVACQ is a temperature data logger enabling the use of 1, 2 or 3 sensors on the same logger, thus answering a lot of industrial needs.

NanoVACQ family (diameter 31mm, length from 31 to 125 mm) has various standard models that can vary in length or probe shape.



NanoVACQ 1Tc - NanoVACQ 2Tc

Ex Option



NanoVACQ 1Td - NanoVACQ 2Td
NanoVACQ 3Td

Ex Option



NanoVACQ 1Tc-2Td



NanoVACQ 1Tc-2Tdi



- 1 or 2 platinum sensors, at the end of a rigid probe (diameter 3 mm (or 3>1.9 mm for the hybrid model) and up to 100 mm long.

- ▶ NanoVACQ 1Tc is available with Ex Option for use in explosive environment.

- 1, 2 or 3 platinum remote sensors at the end of 1, 2 or 3 Viton flexible cables (diameter max 5mm, length to be determined between 100 and 1000 mm) or at the end of SS 316L semi-rigid probes (diameter 2 mm, length to be determined between 100 and 1000 mm). Viton probes are not suitable for autoclave use.

- ▶ NanoVACQ 1Td with semi-rigid probes is available with Ex option for use in explosive environment.

- 1 platinum sensor at the end of a rigid probe (Diameter 3 mm, length 30 mm) + 2 platinum sensors at the end of 2 Viton flexible probes (diameter max 5 mm, length to be determined between 100 and 1000 mm) or at the end of SS 316L semi-rigid probes (diameter 2 mm, length to be determined between 100 and 1000 mm).

Viton probes are not suitable for autoclave use.

- 1 platinum sensor at the end of a rigid probe (diameter 3 mm, length up to 100 mm) + 2 platinum sensors at the end of 2 removable flexible probes. This device is not suitable for autoclave use.

For use inside autoclave, semi-rigid sheathed probe is recommended.

NanoVACQ Temperature



Operating range

- from -80°C to +140°C (and more with thermal shield)
- Batteries to be used depending on operation range and height of the logger (diameter 31 mm)

Operation range	From -80°C to +85°C	from -55°C to +140°C	from 0°C to +125°C
Height 31 mm			014Z
Height 39 mm		Routine TLH	
Height 125 mm	014ZFL		

To benefit of greater temperature ranges, it is possible to exchange batteries on the same device.

Metrology

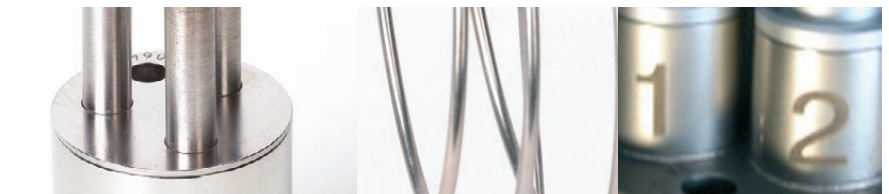
- **Calibration uncertainty:** +/- 0.1°C from -80°C to +140°C (+/-0.05°C upon request)
The uncertainties specified correspond to two standard deviation.
The uncertainties are calculated taking into account the various significant error sources, including the calibration probes, the equipments, the environmental conditions, the influence of the logger, repeatability, etc...
- **Resolution and noise:** 0.04°C
- Each logger can be calibrated and checked at the temperature points needed by the user.

Technical specifications

- **Dimensions:** diameter 31 mm, height from 31 mm to 125 mm depending on battery.
- **Water tightness:** up to 20 bar for the NanoVACQ (except for Tdi models). Flexible probes are not recommended for autoclave use.
- **External materials biocompatible and sterilizable:** 316L Stainless steel
- **Sensors:** Pt1000 or Pt100
- **Memory capacity:** 48 000 acquisitions divided by number of measurement channels.
- **Programmable acquisition rate:** minimum 1 second, maximum 59 minutes and 59 seconds.
- Programmable acquisition duration
- Programmable recording start by date, hour, minute or on temperature threshold.
- Battery replaceable by the user.
- Non volatile memory (EEPROM).

Software operating conditions

- Data transfer with a communication interface connected to the USB port.
- Operates under Windows® XP (SP3)/Vista/7/8

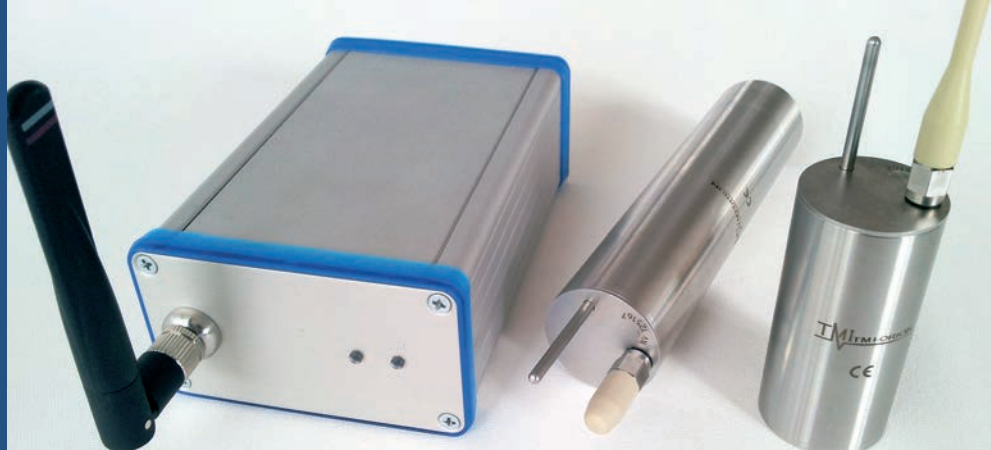


NOTA :

Annual maintenance is recommended for replacement of o-rings, calibration and adjustment.

Temperature data logger

NanoVACQ FullRadio Option



Real time data: wireless and contactless communication

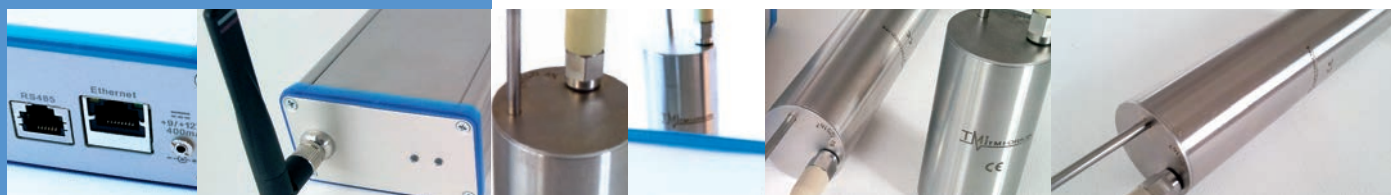
NanoVACQ FullRadio loggers are entirely autonomous. They are equipped with sensors and do not require any wire connection.

They offer the following functionalities:

- wireless and contactless remote setup, starting and reading of data,
- radio recording and transmitting of data during measurement,
- starting and stopping the recording (or radio transmission) on a date or a temperature threshold.

NanoVACQ FullRadio loggers use the technology based on the IEEE 802.15.4 standard, which enables the management of numerous loggers.

All NanoVACQ Temperature are available with FullRadio option.



Operating range

- from -80°C to +140°C (and more with thermal shield)
- Batteries to be used depending on operation range and height of the logger (diameter 31 mm)

<i>Operating range</i>	from -20°C to +140°C	from -80°C to +125°C	from -80°C to +85°C high autonomy
<i>Height 52,2 mm</i>	RADIOHE	RADIOHEF	
<i>Height 131,5 mm</i>			014ZFL

Radio transmission

- Connectable antenna models for NanoVACQ:

- Standard antenna: length 49 mm, medium range (25 meters in clear field).
- Short antenna: length 25 mm, short range (15 meters in clear field).
- Long antenna: length 79 mm, long range (30 meters in clear field).

A preliminary test is recommended to validate the hertzian transmission in the user's application.

- ZigBeeBase transmitter with connectable antenna. Optional remote antenna for sterilizers.
- Connection of the ZigBeeBase radio transmitter with one of the following:
 - USB,
 - RS485 long distance,
 - Ethernet connection.
- Frequency: ISM 2.4 GHz (2.405 GHz to 2.475 GHz) bandwidth. This bandwidth can be used without license (industrial, scientific or medical devices).
- Output power: maximum 5 dBm (3.2 mW)
- NanoVACQ FullRadio option is compliant with the following regulations: R&TTE Directive 1999/5/CE (EU), FCC Part 15.247 (USA), RSS-210 (Canada), ARIB TELEC (Japan), KCC RWA 58-2 (Korea).