

# Cold chain monitoring for pharmaceuticals

## GDP compliant & ISO certified temperature and humidity tracking

Vaccines and pharmaceuticals are typically sensitive to exposure of temperature variations as well as shock, tilt, vibrations and light. They require a steady and controlled temperature environment throughout the entire supply chain. Temperature trackers that are placed together with the cargo during transportation can be used for monitoring an excursion event of a time temperature sensitive pharmaceutical product (TTSP) cargo in various modes of transport including air shipments.



### Application challenges

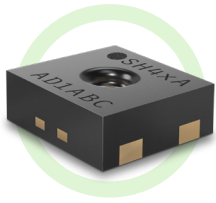
- 1 GDP compliance as per WHO requires tracker with certified accuracy.
- 2 Collecting devices every year for recalibration.
- 3 Battery application and live tracking desired
- 4 Every country with different regulations



### Sensirion's solutions

- 1 Devices built on SHT43 platform inherit ISO17025 3-p temp calibration certificate.
- 2 Drift specified  $<0.01^{\circ}\text{C}$  at a cert. accuracy of  $0.48^{\circ}\text{C}$  allows 2y operation according to WHO.
- 3 Low power consumption with idle mode and flexible sampling rates.
- 4 By MRA\* ISO (based on Swiss METAS) is equivalent to NIST traceability

# Sensirion sensor solution:



SHT43 humidity and temperature sensor  
ISO 17025 certified

Size (LxWxH): 48 x 15.5 x 8.6 mm<sup>3</sup>

## Additional sensor features

- ISO certified accuracy of  $\pm 0.48^{\circ}\text{C}$  at 3-points @  $-30^{\circ}\text{C}$ ,  $0^{\circ}\text{C}$  and  $70^{\circ}\text{C}$
- Optional protective membrane for pollution reduction during operation
- Optional removable protective foil for protection during production

## Other applications

- Tracker for time & temperature sensitive pharmaceutical products (TTSP)
- Tracker for fresh & frozen food
- Temperature monitoring of cold chain storage facilities
- Temperature monitoring in trailers, containers and ULDs with active cooling
- Any NIST traceable applications

## FAQs

- **What does ISO17025 certify?**  
ISO17025 certifies that each sensor's accuracy has been tested individually by an ISO certified laboratory to be within a certain accuracy ( $\pm 0.48^{\circ}\text{C}$ ) at 3-points in temperature ( $-30^{\circ}\text{C}$ ,  $0^{\circ}\text{C}$  and  $70^{\circ}\text{C}$ ).
- **How can I obtain the ISO certificate for a SHT43 sensor?**  
Through [Sensirion's Libellus platform](#), a cloud service providing certificates and other sensor-specific data to customers of Sensirion and other interested parties. Currently, ISO17025 certificates are available for STS32, STS33, SHT33, and SHT43
- **Why does the ISO certification apply to the sensor rather than the system?**  
Since evaluation of measured data is handled

on chip and the device only receives a digital value, the certified accuracy is independent of the device. But offsets coming from industrial design must be taken into account during product design.

- **Why is ISO equivalent to NIST?**  
NIST and many other accreditation bodies are part of ILAC mutual recognition agreement (MRA). This makes an ISO17025 certified sensor also NIST traceable.
- **What is the additional cost of the ISO17025 certification of an SHT43?**  
Each and every SHT43 is calibrated immediately after production. No additional cost besides the price of the sensor will be charged for download of the certificate on the Libellus platform.

## Getting started



SHT4x evaluation kit

## Related sensors

- [SHT40 humidity/temperature sensor](#)
- [SHT41 humidity/temperature sensor](#)
- [SHT45 humidity/temperature sensor](#)

## Useful documents



Datasheets, application notes, handling instructions, sample codes, step files, certificates