E+E

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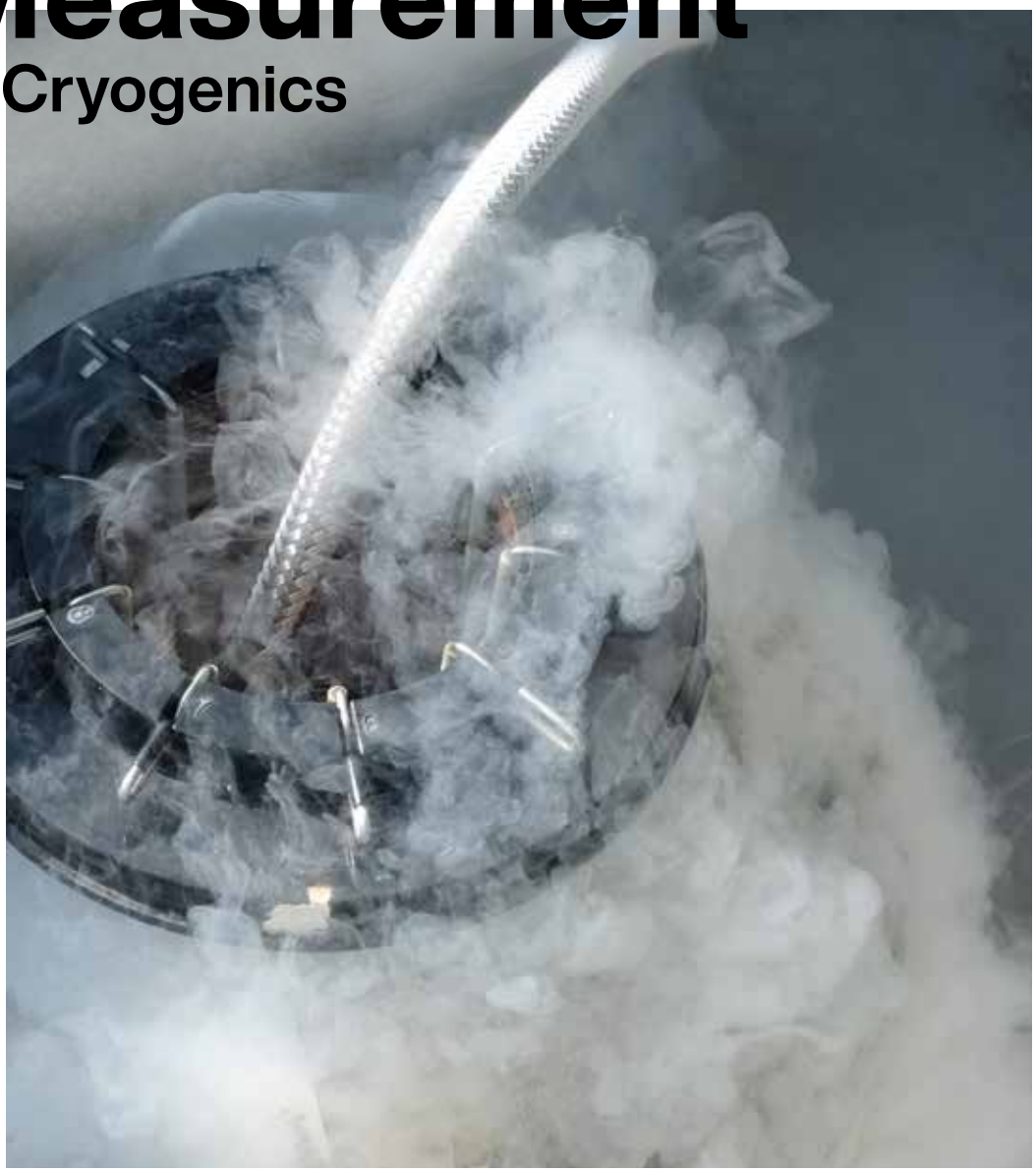
in sensor
technology.

Precise Temperature Measurement

in Cryogenics



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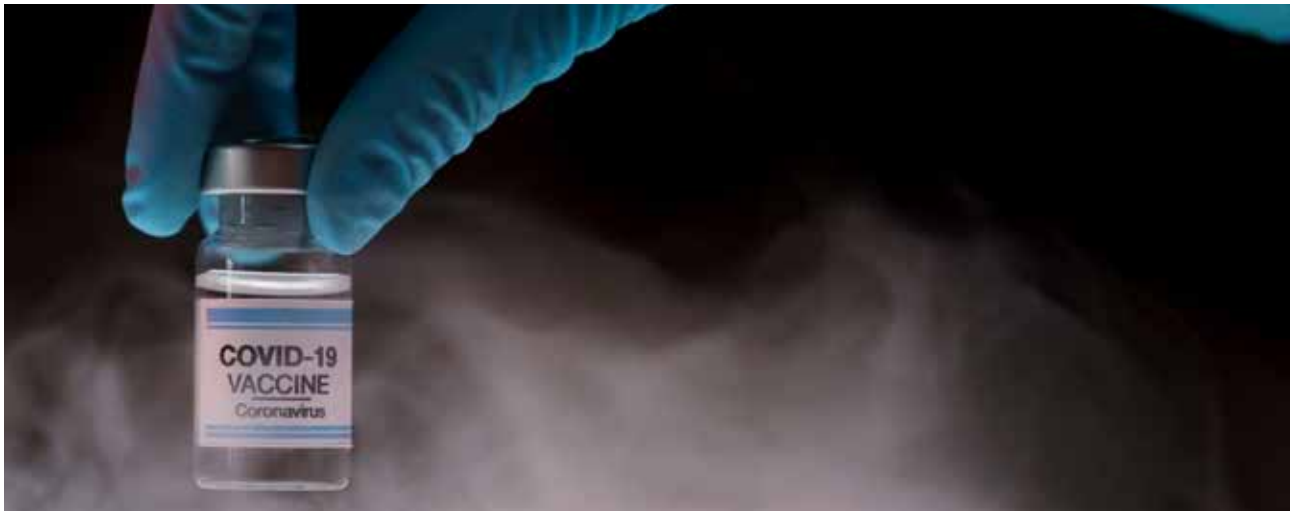
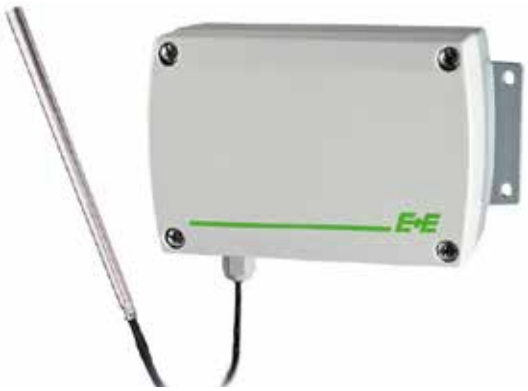
Ultra Low Temperature Preservation of Pharmaceuticals



Medicines and vaccines are vital for treating diseases and maintaining health. This makes it all the more important to preserve them and provide protection against biological decay. In most cases, cryogenic technology is used for this purpose. In the form of the EE310, E+E Elektronik already has a reliable humidity and temperature transmitter for demanding applications in the pharmaceutical sector in its product range. Due to the increasing demand for ultra-low temperature preservation (ULT freezer), a temperature-only version with a measuring range down to -80°C has now been developed – without having to sacrifice the familiar accuracy.

Cells, tissues or other biological constructs are prone to being damaged by unregulated chemical kinetics (enzymatic or chemical activity) and thus becoming unusable. Cryopreservation is the process of preventing this destruction by cooling to very low temperatures and preserving the structure and function of the substances. For example, the vaccine for SARS Covid-19 must be stored at temperatures down to -80°C. Storage occurs in special containers, among other options, that are cooled down to the required temperature by a cooling chamber system. It is important to permanently monitor the temperature in the storage containers in order to prevent harmful fluctuations and ensure a constant refrigeration environment. A PLC (programmable logic controller) is used to control the processes as required.

With the EE310, E+E Elektronik offers a reliable, precise transmitter for humidity and temperature, which is also ideally suited for critical industrial applications. Originally, a temperature measuring range down to -40°C could be guaranteed. In intensive development work and tailored to the special requirements of the pharmaceutical industry - especially in the challenging times of the pandemic - a version was introduced that allows highly precise measurements down to -80°C with a measuring accuracy of +/- 0.9°C.



EE310

This version of the EE310 is among others also applied in the field of vaccine storage. Equipped with a 6-mm stainless steel sensor and a Modbus TCP/IP interface, the EE310 can be deployed directly in the refrigeration vessel instead of the Pt temperature sensor originally used.

The interface is particularly impressive here, as it allows the new transmitter to be deployed in the existing system without causing too much overhead. In addition, calibration can be performed easily and directly on site.

With the EE310, developed for cryogenic applications, E+E Elektronik can make a valuable contribution to the optimal storage of pharmaceutical products and thus also to the security of supply of medications

The Challenge.

- Measurement of extremely low temperatures
- (down to -80°C)
- Mechanical stability of probe and cable
- Possibility to retrofit existing systems
- High measuring accuracy
- Compatibility with existing installation

The Solution.

- EE310 with 6-mm stainless steel probe
- Integrated Modbus TCP/IP module
- Traceable accredited „in-house“ temperature calibration

Product Benefits.

- asy calibration on site
- Unique product on the market
- Great accuracy
- High protection class for safe operation
- Good price/performance ratio

Overall Value.

- 24/7 online measurement in ULT freezers
- Direct monitoring of storage temperature
- Verification management for GDP (Good Distribution Practice) documentation
- Maximum security for valuable stored products

Company Headquarters &
Production Site

E+E Elektronik Ges.m.b.H.
Langwiesen 7
4209 Engerwitzdorf | Austria
T +43 7235 605-0
F +43 7235 605-8
info@epluse.com
www.epluse.com

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