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## About Pharma-Mon

**Pharma-Mon is a brand of AKCP, the worlds oldest and largest manufacturer of networked wired and wireless professional sensor solutions.**

AKCP established in the USA in 1981, have 30+ years industry experience. AKCP created the market for networked temperature, environmental and power monitoring. Today with over 150 employees and 200,000 installations, AKCP is the world's oldest and largest manufacturer networked wired and wireless sensors.

Our customers are diverse and include fortune 500 companies, government agencies, banks and military.



# Importance of Monitoring Pharmaceutical Temperature

Pharmaceutical cold chain monitoring technology has come a long way since manual data collection. We now have wireless data loggers that collect data and can automatically synchronize it to a central monitoring platform.



These products have made the collection and storage of data easier, but maybe lack real-time monitoring and alert capabilities. Having a system in place that not only logs data but can pro-actively monitor and alarm when temperature excursions occur is a logical development.



## Early Warning Systems vs. Data Loggers

Intelligent data loggers that are connected to a centralized cloud monitoring system with graphing, location and alerts can warn in advance of problems, giving you actionable data and live insights to the condition of the pharmaceutical products in transit and in storage.

## Important Features of an Early Warning System

A cloud-based monitoring system with wireless sensors can track temperature and humidity as well as the location of shipments in real-time while in transit. Know where your product is if it's been sitting air-side waiting to be loaded on a cargo plane, is it getting too hot? Make sure the right information reaches the right person to take action when temperature excursions occur.

## Accurate Data

Ensure the sensors being used are accurate, calibrated with NIST traceable certification. The sensor should be capable of monitoring the range of temperatures the package will experience. For some products, a wide range of temperatures and fluctuations is acceptable, for others it must be a much more controlled environment. Having accurate data gives you the proper information that is reliable and actionable.

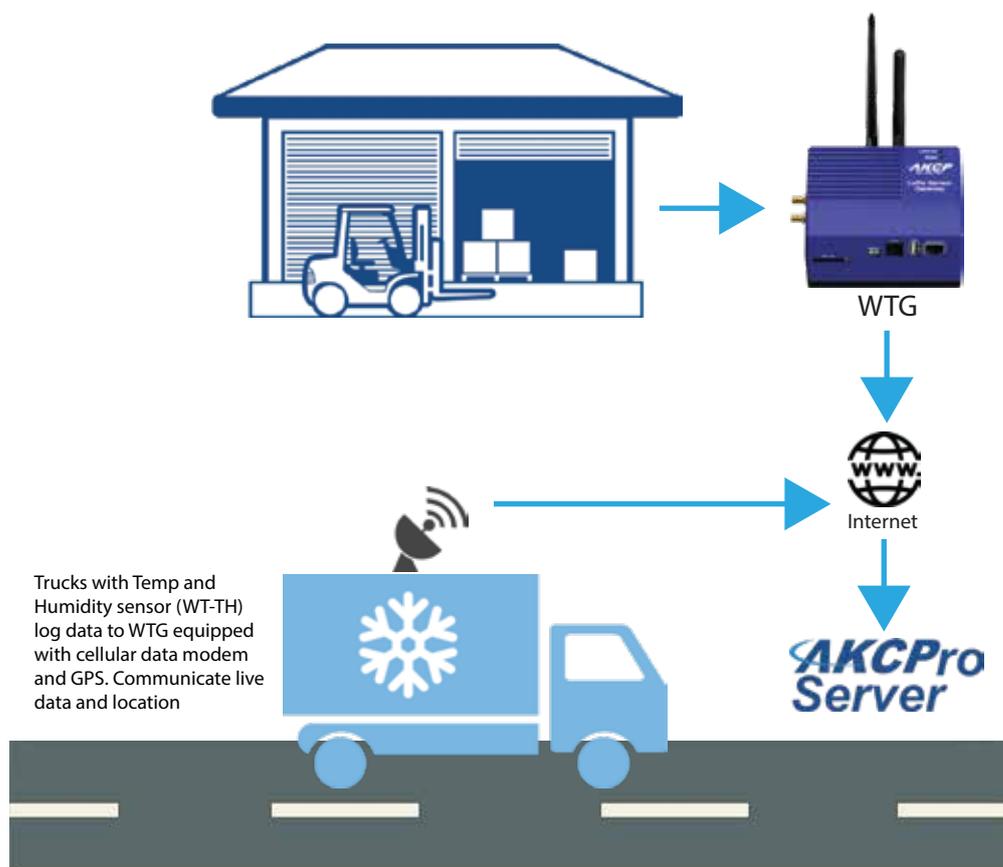
## Live & Predictive Data

Data should be visible in real-time for rapid decision making. Of course in certain modes of transport real-time data is impractical, such as when shipping via sea-freight and boats are in the middle of the ocean, or while in the air on-board a plane. The sensors should be capable of logging data while out of communication to the cloud, and then synchronize this information when communications are re-established. As well as live data, predictive data is valuable, if the system can identify a steady increase in temperature, a predictive graph can be drawn and advance warning given of an impending temperature excursion. The system should also support data on the MKT (Mean Kinetic Temperature) to easily identify the degree of damage the Pharmaceutical products might have suffered during an excursion.

## Pharma-Mon Solution

We provide a complete solution for monitoring of temperature sensitive pharmaceutical products both in storage and transport. NIST traceable, calibrated, wireless sensors for easy installation in warehouses, cold rooms and refrigerators.

Live tracking of shipments in transport with alerts when temperature excursions occur.



## If you're spending money for monitoring, wouldn't you want to know the sensors are calibrated?

### Calibrated Sensor with Failover:

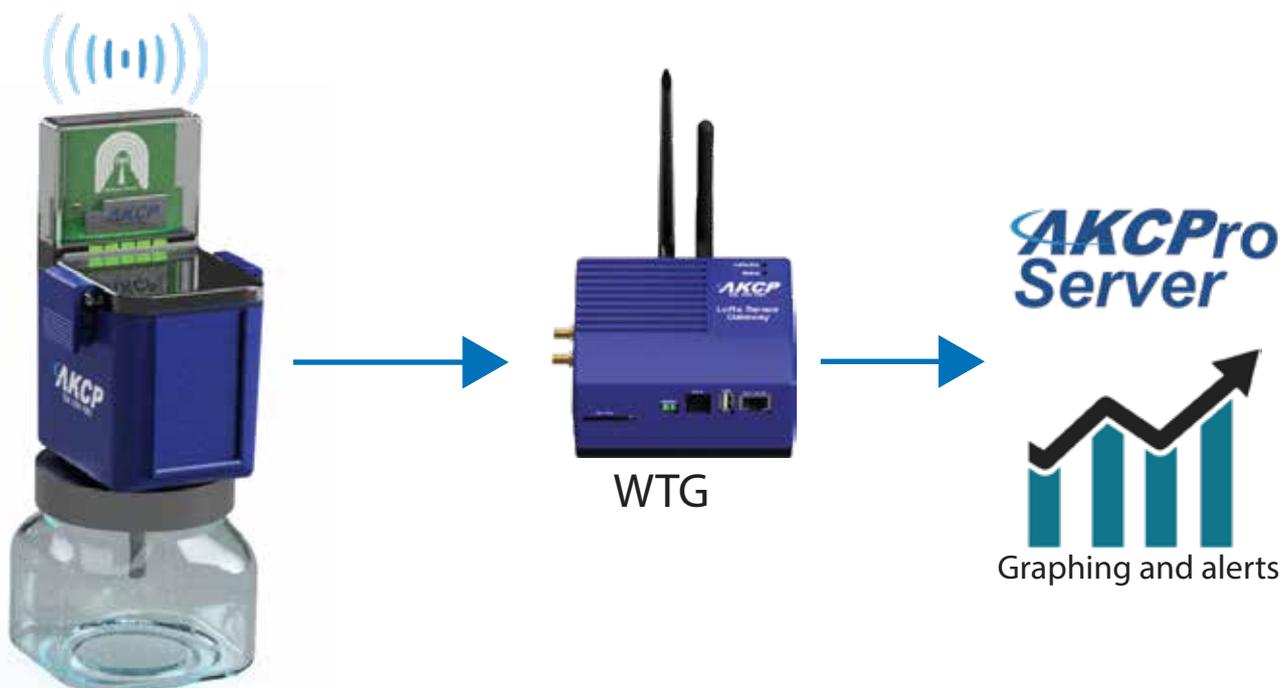
**NIST traceable calibrated temperature sensors with calibration check.**

**WTS-NIST2** : Two temperature sensors are checked against each other once a second for calibration. Alerts sent when out of calibration detected.

**WTS-NIST4** : Four temperature sensors work in 6 pairs. Values are compared to each other once a second for calibration status. When a pair is out of calibration the value from that pair will be ignored in the average reading, and an alert as to the calibration status sent.

### Glycol Jar:

To comply with FDA regulations and standard best practices in monitoring temperature sensitive pharmaceuticals and vaccines the sensor can be ordered with attachment to a glass jar of glycol (glycol not included). This acts as a buffer ensuring the sensor readings are not affected by the opening and closing of the door causing temporary minor fluctuations.



## Custom Options:

The WTS temperature sensor can be ordered with the sensor on cable up to 15ft length. This allows you to place the radio module in a convenient location with the sensor placed in a precise position. Replace the xx in the product code with the length required (WTS-NIST2-15 for example)



Extended Sensor  
(WTS-NIST2/4-xx)



Fixed Sensor  
(WTS-NIST2/4)



Extended Sensor With Glycol Jar  
(WTS-NIST2/4G-xx)



Fixed Sensor With Glycol Jar  
(WTS-NIST2/4G)