



AK2: Smart Monitoring for Regional and Local Weather Stations; Reliable Environmental Data Delivery to the Network (Modbus/TCP)

For regional weather stations and local atmospheric monitoring, the accuracy and continuity of temperature and humidity sensor readings are the foundation for reliable climate data analysis. AK2 is designed as a suitable replacement for legacy, mechanical, or failure-prone recorders, capable of operating as a stand-alone unit or integrated into local monitoring station networks. This equipment is critical for organizations and projects that require accurate, continuous, and real-time environmental data. One economic and practical advantage: the device records data reliably, and a data outage no longer means lost information.

Suitable for local climate monitoring



Assists in analyzing temperature and humidity trends



Installation of replacement sensors at local stations



Compatible with environmental monitoring projects



Ideal replacement for varied recording chart ranges



Network connectivity for centralized data collection





AK2: Smart Monitoring of Temperature and Humidity in Sports Facilities with Possibility of Direct Connection to HVAC Systems

In sports halls, saunas, pools, and spa relaxation areas, ambient conditions play an important role in user comfort, equipment health, and building hygiene. Excessive humidity accumulation causes condensation, corrosion of metal equipment, mold growth, and gradual structural damage. In saunas and pools, humidity control is even more critical due to the direct effect of water vapor. AK2, with its precise measurement capability and direct connection to HVAC systems, enables intelligent optimization of ventilation or heating. Managing this group of environments helps preserve the health of athletes and the comfort of visitors, and plays an effective role in continuous maintenance and reducing facility repair costs.



Alarm on abnormal conditions



Suitable for HVAC equipment control



Helps athlete health and comfort



Suitable for sports halls and saunas



Increased for energy efficiency of the complex



Reduced mold and ambient humidity



AK2: Precise Temperature and Humidity Monitoring for Stable Hatchery Conditions, **Reduced** Condensation, and **Higher Efficiency**

Temperature and humidity are two critical factors in hatchery operations, influencing hatchability and healthy chick development. Even slight deviations from setpoints can significantly reduce hatch rates and cause financial losses. AK2 provides precise monitoring to help minimize these risks and support reliable, cost-effective operation. Accurate measurements enable operators to set control thresholds and respond quickly to environmental changes. AK2 helps maintain stable temperature and humidity conditions in incubators and hatching rooms, supporting dependable monitoring throughout the process.

Improved temperature and humidity control



Helps maintain stable incubation conditions



Alarm and equipment-control capability



Helps reduce environmental deviations



Designed for hatcheries and hatching rooms



Supports higher productivity and hatchability





AK2: Monitoring Humidity and Temperature in Cold Storages and Food Industries with Accurate Data and Early Warnings

In the food industry, monitoring temperature and humidity with precision directly impacts product quality, safety, and shelf life. In cold storages, fresh food storage halls, and freezing tunnels, non-standard ambient conditions can reduce product quality, cause spoilage, reduce weight loss, or even excessive energy consumption. With its high measurement accuracy, the AK2 provides effective control of humidity and temperature conditions, alarm notification of out-of-range deviations, and ideal conditions for food preservation. Maintaining suitable ambient conditions is especially critical for food safety and helps facility managers or quality control staff detect temperature changes before reaching dangerous levels. Precise temperature recording and proper hygiene also play a key role in customer trust and product brand retention.



Reduced spoilage
and product
weight loss



Data logging
and cloud sending



Connection to
monitoring systems



Early warning of
out-of-range
deviations



Suitable for cold rooms
and fresh food halls



Preservation of quality
and product safety

AK2: Temperature and Humidity Monitoring in CNC and Precision Machining Workshops

In precision machining shops, controlling temperature and humidity is critical to machining accuracy. Thermal expansion and contraction of equipment, parts, and measuring tools can directly affect final dimensional accuracy. AK2 provides independent temperature and humidity monitoring with Modbus RTU / Modbus TCP connectivity, enabling automation of exhaust fans, cooling equipment, and alarms without complicated infrastructure. This helps maintain stable workshop conditions, reduces scrap and rework, and improves process repeatability in machining, CNC, welding, casting, and surface finishing operations.



Independent temperature and humidity control without cooling infrastructure



Integration with BMS, PLC, or legacy monitoring systems



Continuous ambient condition monitoring for improved machining accuracy



Reduction of waste caused by thermal expansion and contraction



Support for precise tolerances in molds and micromachining



Suitable for workshops, turning, CNC, welding, casting, and finishing

AK2: Damper and Climate Control for Mushroom, Canning, and Food Industries Greenhouses

In greenhouses, temperature and humidity are the two primary parameters for crop production. Weed growth, pathogen development, and spreading of fungal diseases are directly linked to excess humidity. If humidity rises above the allowable threshold, irrigation and ventilation increase to prevent mold formation, reduced product quality, and yield loss. AK2 responds to these changes with high accuracy and precision, with a working range of 0 to 100% RH. It enables both independent temperature and humidity control or, via the Modbus network, helps control fans, heaters, or fogging systems to reach the target setpoint. For greenhouses, this means not just one grow-light cost but stable production for premium quality products, less waste of water and fertilizer, and increased final yield.



Webserver for fast and accurate trend adjustments



Direct connection to PLC and central controllers



Suitable for mushroom, canning, and food industries greenhouses



Optimal yield for crop quality and health



Assists in reducing crop loss and improving food safety



Full-range humidity monitoring for mushroom growing chambers

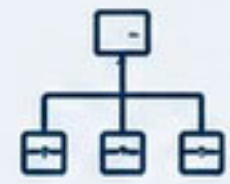


AK2: An Integrated Environmental Monitoring and Control Solution with Network Protocol Support in BMS Systems

In smart buildings, precise temperature and humidity control is critical for ensuring occupant health, comfort, and energy consumption optimization. The AK2, with support for Modbus RTU and Modbus TCP protocols, enables full integration into BMS platforms and delivery of accurate environmental data. Additionally, the use of its internal relays for localized control actions leads to intelligent energy management and improved occupant comfort.



Better ventilation control and environmental comfort



Ideal for BMS integration



Industrial network and protocol support



Reduced energy consumption with accurate data



Suitable for office, commercial, and residential buildings



Direct load control via internal relay



AK2: Smart Monitoring of Temperature & Humidity in Power Distribution Cabinets; Predictive Protection Against Equipment Failure & Downtime

In densely packed power distribution cabinets, PLC and DCS automation panels, increased ambient temperature and humidity can lead to reduced service life of electronic components, unexpected downtime, and costly equipment failures. The AK2 controller, with native integration capability with PLC, DCS, and RTU systems, provides precise internal cabinet condition monitoring. This enables operators to predict thermal load and prevent failures before they occur. The result of this smart monitoring: higher reliability, reduced unplanned maintenance costs, and extended service life of critical electrical infrastructure.

Panel-level temperature & humidity monitoring



Fan control or alarm signaling



Compatible with PLC & DCS integration



Helps reduce electrical equipment failures



Increases equipment uptime & safety



Suitable for industrial automation panels



AK2: Monitoring Data Center and Server Room Climate: A Key Factor in Infrastructure Stability

Data center rooms are always under thermal and humidity stress due to 24/7 operation of dense equipment. Precise climate control, early warning of failures, and continuous environmental logging are not optional choices, but vital necessities. Thermal shocks or sudden humidity changes can cause hardware damage, downtime, and irreparable financial losses. The AK2, with accurate measurement of $\pm 0.3^{\circ}\text{C}$ and $\pm 3\%$ RH, and reliable RS-485/Modbus RTU and Ethernet connectivity, gives IT and data center administrators the confidence that server room conditions always remain within standard limits. This early awareness prevents costly failures and extends equipment lifespan in critical IT infrastructure.

Early alarm before equipment damage



Network and server infrastructure stability



Prevention of Hot Spots and server racks



Web-based internal monitoring without extra hardware



Accurate temperature and humidity logging for sensitive computing



Suitable for BMS, PLC and infrastructure network integration





AK2: Temperature and Humidity Control in Silos and Grain Warehouses: A Key Factor in Preventing Crop Waste and Preserving Product Quality

in bulk grain storage silos and warehouses, temperature and humidity are among the most important factors affecting crop quality. Reduced product quality and economic losses are the main consequences of uncontrolled storage conditions. Unexpected moisture changes can create conditions for mold growth and increased product temperature. The AK2, with temperature and humidity monitoring capability, enables operators to maintain silo conditions within standard ranges. It helps prevent the formation of hot spots, moisture condensation, and grain spoilage. This means healthier grain storage, reduced waste, and preservation of product value until consumption or sale.



Suitable for silos and grain warehouses



Helps reduce waste and preserve crop quality



Rapid hot spot warning under non-standard conditions



Integration with monitoring systems



Suitable for bulk storage of agricultural products



Increased safety in stored product management



AK2: Accurate Temperature and Humidity Monitoring for Clinical Rooms & Wards; Integrated Alarms, Enhanced Patient Safety, & Protection of Sensitive Medical Supplies

In healthcare facilities, environmental stability directly impacts patient comfort, medical equipment reliability, therapeutic processes, and clinical hygiene standards. In sensitive areas such as operating rooms, treatment rooms, pharmacy storage, and specialized wards, strict temperature and humidity control prevents equipment degradation, protects perishable medications, and ensures safer clinical conditions. AK2 enables continuous environmental control through accurate monitoring, instant network alarming, and centralized connectivity, ensuring swift response to any deviation.

Maintains environmental stability & compliance



Centralized monitoring network integration



Instant alarms for rapid operator response



Protects sensitive medical supplies & equipment



Suitable for clinical wards & hospital utility areas



Enhances condition logging & compliance records



AK2: Precise Monitoring of Humidity and Temperature Conditions for Preserving Historical Artifacts

In museums, archives, and libraries, non-standard humidity and temperature are among the biggest hidden threats to collections. Paper, parchment, wood, leather, adhesives, and pigments are highly sensitive to fluctuations in humidity and temperature, which can cause cracking, fading, mold growth, or irreparable damage. The AK2, with an industrial design and high measurement accuracy, helps the conservation and maintenance team maintain the ideal and stable conditions required for preserving artworks. For this purpose, coverage of just one enclosure or display case with a single device is sufficient to protect humanity's cultural and historical heritage.



1. Alarm for early warning of environmental deviations



2. Logging capability and trend reporting



3. Helps preserve the value of artworks



4. Suitable for museums, archives, and libraries



5. Reduces mold growth risk, drying, and paper degradation



6. Ideal for protecting documents and historical manuscripts





AK2: Monitoring Temperature and Humidity in Petrochemical and Chemical Industries (Non-Hazardous Areas)

In chemical industry control rooms, petrochemical warehouses, and control panels of non-hazardous (non-Ex) processes, continuous temperature and humidity monitoring is critical for equipment performance and process safety. The AK2 serves as an integrated monitoring point. Reliable data recording enables timely and effective decision-making. If temperatures exceed safe limits due to cooling system failure or poor ventilation, immediate warnings are issued. In areas with sensitive electronic equipment, precise environmental control supports device stability and reduces the risk of sudden failures. This directly contributes to maintaining plant safety and operational efficiency.

Integration with DCS, PLC, and RTU systems



Alarms and notification of abnormal conditions



Helps protect equipment and assets



Suitable for control rooms and technical offices



Easy integration with existing SCADA networks



Suitable for non-hazardous (non-Ex) process areas



AK2: Precise Temperature and Humidity Control for Mushroom Farming; Higher Yield and Reduced Crop Waste

In mushroom farming, temperature and humidity are not merely environmental factors — they are a fundamental pillar of economic productivity and crop quality. In the most sensitive growth stages, even the slightest deviation in temperature, humidity, or air quality can slow mycelium development, disrupt fruiting body formation, and reduce the final yield. The AK2 controller, with full monitoring of temperature and humidity and the capability to trigger corrective actions based on defined setpoints, helps the farmer prevent losses and maintain stable growth conditions. The result of this precise control is increased yield, reduced waste, and a higher quality product — a decisive factor for profitability in mushroom production.

Precise monitoring of mycelium & fruiting



Ideal for local climate management of the farm



Reduced product loss & improved quality



Sustained environmental control in growing rooms



Suitable for mushroom growing facilities



Supports higher yield & reduced waste





AK2: Ensuring Quality and Environmental Compliance in Labs and Pharmaceutical QC Facilities

In pharmaceutical cleanrooms, laboratories, and areas with strict environmental control, ambient conditions directly impact product quality and test result validity. Any uncontrolled temperature or humidity deviation can cause batch loss, measurement error, or even GMP non-compliance. The AK2, with precise calibration and reliable data logging, provides a trusted solution for ongoing monitoring of these sensitive environments. It enables QC teams to confidently sign off on the compliance of production and quality-control processes, ensuring every batch is produced under valid and documented conditions.

Reduced risk of batch loss



Accurate data for controlled archives



Reliable data for audit & validation



Immediate out-of-range alarm capability



Suitable for QC labs, cleanrooms & labs



Backbone of sustainable quality compliance



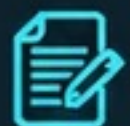
AK2: Climate Monitoring and Stabilization for Printing Facilities

To Prevent Paper Waste and Print Quality Fluctuations

In printing and packaging lines, temperature and humidity directly affect the behavior of paper, adhesives, ink, films, and final print quality. Unbalanced humidity can lead to paper warping, reduced print quality, register issues, and packaging process disruptions. AK2 provides precise, continuous monitoring, allowing producers to identify and correct environmental fluctuations before waste occurs. This results in more stable print quality, less downtime, and direct material cost savings.



Improved efficiency and reduced rework



Reduction of waste caused by humidity fluctuations



Suitable for production environment control



Suitable for printing and packaging lines



Support for stable print quality



Integration with automation systems



AK2: Smart Monitoring of Temperature & Humidity in Rail Transport & Wagon Systems; Connected to Central Control Platforms

In rail rolling stock, wagons, and railway technical cabins, uncontrolled ambient conditions put both passenger comfort and the performance of electronic equipment at risk. Sudden temperature and humidity fluctuations inside cabins can damage sensitive equipment and compromise passenger comfort. The AK2, with reliable remote monitoring and accurate data delivery to central control platforms, enables fleets to go beyond simple fault alarms — achieving predictive maintenance. For rail fleets, this means better safety, reduced environmental risk, and lower costs of unscheduled repairs and maintenance.

Increased safety of critical equipment



Suitable for predictive maintenance



Ability to connect to control platforms



Reduced risk of fire and breakdown



Suitable for rail fleets & wagons



Helps maintain optimal ambient conditions



AK2: Smart Monitoring of Accurate Environmental Conditions and Livestock/Poultry Hall Management

In poultry and livestock halls, temperature and humidity fluctuations beyond the acceptable range can reduce feed efficiency, increase mortality, cause heat stress, respiratory issues, and poor weight gain. With precise monitoring of breeding conditions and real-time awareness of environmental changes, production efficiency can be significantly improved and mortality rates reduced. The AK2, with a suitable industrial design, local control, alarm capabilities, and connectivity to automation systems, is an ideal tool for managing livestock and poultry hall ventilation. Using this device in broiler chicken houses, hatcheries, dairy and beef cattle farms, and poultry poulterer centers ensures accurate temperature and humidity control and lower ventilation costs, leading to better growth and reduced chick mortality.



Better dam and chick rearing conditions



Reduced heat stress and mortality



Suitable for broiler, pullet, and breeder houses



Local display for farmers



Helps increase production and reduce feed waste



Quick installation in livestock halls





AK2: Smart Warehousing with Reliable Monitoring for Product Quality & Asset Protection

In warehouses, physical product quality alone is not enough; environmental conditions can directly affect shelf life or product value. For sensitive goods such as food, pharmaceuticals, and electronics, continuous and automated monitoring is far more reliable than manual temperature and humidity checks. Any deviation from the permitted range triggers an immediate alert, enabling corrective action before product quality is compromised. With digital logging capability, AK2 acts as a reliable and active watchdog for warehousing. This device helps you move away from paper-based records and manual spot checks toward a manageable, integrated system.

Ideal for sensitive goods warehouses



Continuous condition monitoring



Immediate out-of-range alarm capability



Connectivity to automation and monitoring systems



Suitable for food-grade product storage



Eliminates paper logs and manual checks



AK2: Temperature and Humidity Monitoring and Control in BTS Shelters

In telecom and BTS sites, due to the absence of permanent on-site personnel, continuous temperature and humidity monitoring is critical to prevent equipment damage. The AK2 device, with webserver capability, and reporting/ alarm features, provides an ideal solution for monitoring these sites. Furthermore, its independent relay outputs can assist site cooling equipment or trigger alarms when the internal temperature rises and humidity increases beyond safe levels.



Remote data monitoring
via web dashboard



Monitoring without
on-site personnel



Suitable for increasing
shelter reliability



Alarm and control capability
for cooling equipment



Suitable for BTS shelters
and telecom sites



Reducing battery corrosion
risk under unstable conditions





AK2: Monitoring and Controlling Humidity in Textile Industries, Where Yarn Quality Depends on Ambient Conditions

In textile production lines, humidity and temperature directly affect fiber quality, yarn elasticity, yarn strength, and ultimately the quality of the final fabric. Especially in the yarn spinning section, non-standard ambient humidity causes thread breakage, increased dust, and reduced production efficiency. AK2, with its precise and accurate sensing capability, helps quality control engineers keep ambient conditions within the standard range defined for each type of yarn. This continuous monitoring plays an important role in final product quality, reducing thread breaks and waste, and increasing machinery uptime; investing in this technology is not an expense but an investment in production stability.



Reduced waste and rejects



Improved final product quality



Assistance in preserving fiber and yarn properties



Suitable for controlling yarn production lines



Suitable for weaving and winding halls



Reduced static electricity from dry ambient air