AquisNet DAS - Data Acquisition Station

AIR QUALITY

AquisNet by KISTERS AG is a family of products specifically designed for ambient air quality monitoring, continuous emission monitoring and meteorological monitoring.

AquisNet DAS (Data Acquisition Station) is versatile data acquisition software for non proprietary Windows-based PCs. It provides all required and expected functionality such as data acquisition, plausibility checking, instigation and control of functional tests, supervision of operational states, alarm generation, local data storage and the communication with the data centre software. Preferably the data centre would be equipped with the distributed, multi-tier client-server application AquisNet, even though AquisNet DAS would work fine with other data centre software packages. A separate product brochure is available for AquisNet.

AquisNet DAS - advantages at a glance

- Acquisition and management of **high-resolution time series** data (e.g. 5-sec instantaneous data)
- **Flexibility and ease of use** due to the use of independent input channel drivers
- Use of **circular buffers** for all local data storage:
  - individual circular buffers for each input channel
  - local storage autonomy depends on available hard-disk space
  - data overflow (and subsequent data loss) avoided by relying on circular buffers

- Functionality **particularly developed for air quality monitoring**:
  - functional test and calibration of intelligent analyzers and using digital I/O similar cycles can be run for 'dumb' sensors
  - plausibility tests
  - a large number of analogue and serial inputs
- Web application enables authorized users **remote access** via routed communication links.

Short functional description

AquisNet DAS turns non proprietry Windows PCs into fully fledged data acqusition systems. Preferably all I/O will be provided by

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serial and analogue device driver hardware actually providing fully routed TCP/IP access to analyzers and sensors. Alternatively, AquisNet DAS still provides support for a classical combination of serial ports and analogue/digital I/O cards. The software facilitates the operation, control and remote parameterization of individual gas/PM analyzers, meteorological sensors and of any other sensor connected to the system. The core functionality includes checking of measured data, initiation and supervision of calibration cycles of analyzers, alarm triggering and management of basic data. AquisNet DAS consists of a coupling of executables (for all acquisition, alarming and data storage/management) and a web application (user interface, functional tests and data display), and requires only a standard PC running Microsoft Windows (including a browser) for operation.

Management of measured data

- Comfortable management of individual measurement points including functional tests
- Remote parameterization and remote maintenance of each single station
- Support for measurement points in batch mode or with delayed data transfer
- Data plausibility check and aggregation with parallel local storage of high resolution original data
- Data storage in circular buffers – no data loss due to overflow!

Management of user and station data

- Management of station and measurement point data
- Management of QA data (calibration protocols, etc.)
- Flexible user roles/rights management

Telemetry

- Automatic recognition of active measurement points and supervision of the well functioning of all analyzers/sensors
- Cyclical execution of functional tests (respecting curfews)
- Support for multiple protocols (serial, mgs1, Bayern/Hessen protocol, …) – prepared for LAN-enabled sensors and proprietary protocols

- Access to all measurement point settings from within the web application (local/remote)
- Display and download of measured data, messages and results from functional tests and manual calibration
- Dissemination of spontaneous messages generated by the station
- Support for multiple communication links (WAN, ISDN, analogue phone lines, GSM, …)
- Data transfer using Descriptive Data Protocol, an advanced communication protocol for both online (e.g. TCP/IP) and file-based data transmission (e.g. FTP) enabling fast access times to relevant data (alternatives can be implemented if desired)

Alarm functions

- Exceeding of thresholds
- System self test
- Spontaneous transmission of messages relative to station or measurement point faults

Remote parameterization and maintenance

- Remote parameterization of stations
- Remote installation of the station software
- Access to other user interfaces (data centre access to station, station access to station, station access to data centre)
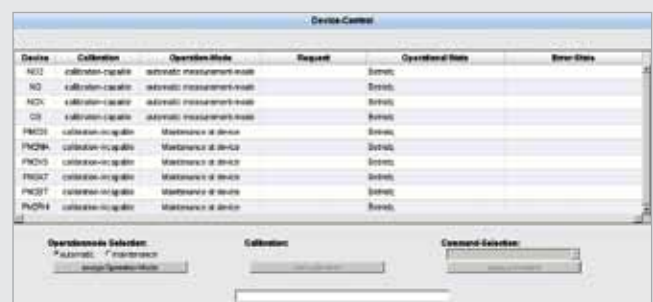
Progress and success in air quality monitoring:
With AquisNet DAS and the competence of pioneers.

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