Data Acquisition System for Ambient Air Quality and Environmental Monitoring

The AQMAS-1000 is a versatile IP data logger designed to simplify your life in managing air quality and further environmental data.

Managing ambient air quality data, met data and other parameters such as traffic counts in the same AQMAS-1000 unit is straightforward with the versatile user-configurable system software and the large variation of input channels. Alerting, exceedance management and compliance reporting can all be done using the same device and software environment. Operating AQMAS-1000 systems helps in implementing cost-effective data acquisition and management in monitoring stations: a single device collects all data, maintenance is simplified, data transmission and data formats are harmonized, training efforts and learning curves are under control, and the homogeneity in equipment, software and processes can be assured across all stations of a monitoring network.

AQMAS-1000 provides the processing power, data aggregation and device control/management techniques required to successfully operate a set of air quality analyzers, meteorological sensors, traffic counters and other serial, analogue or digital instruments. AQMAS-1000 integrates all hardware and software components into a single 19” enclosure.

AQMAS-1000 provides a wide range of physical input interfaces all directly accessible on the same side of the device:

- 7 serial ports (for max. 7 serial air quality analyzers)
- 1 serial interface for meteorological sensors
- 8 analog inputs
- 4 relay outputs
- 6 digital inputs

AQMAS-1000 Firmware

Data Input & Output
AQMAS-1000 is equipped with a large data memory, i.e. the storage autonomy is large enough to prevent data losses even if a system can’t be reached for a while. Up to three distinct averaging/storage periods can be used for both measurement and system status data, i.e. one minute, 30 minutes and one hour.

The integrated web user interface allows for local access and remote access to all measurement data and system settings using any web browser on any operating system and hardware platform (desktop, laptop, tablet, etc.).

Local/Remote Access

No matter whether a laptop or tablet is connected locally to the AQMAS-1000 or whether the unit is remotely accessed through the Internet: IP is the communication protocol of choice! This makes the AQMAS-1000 an ideal IoT data collection unit. The device provides

- 1 serial interface for modem connection
- 1 Ethernet interface for Intranet or xDSL
- 1 Ethernet interface for user PC

Unique Key Features

- Single unit supports large variation of analyzers and met stations: 200+ communication protocols incl. proprietary and general-purpose protocols such as Gesytec/mgs1 (Bayern/Hessen)
- Large variation of input ports: serial, Ethernet, analogue and digital channels
- 2-point calibration support for supported gas calibrator systems
- Configuration: locally or remotely
- Internet of Things built-in: Internet-based data acquisition unit, browser interface, web service API, IP data transfer to either cloud applications or client-hosted software
- Existing data transfer interfaces for both KISTERS’ AquisNet Air Quality Data Management System and HyQuest Solutions’ Hydrotel telemetry system

Applications

AQMAS-1000 is ideally suited for ...

- Regulatory Ambient Air Quality Monitoring Stations
- Industrial Fence-Line Monitoring Stations
- Mobile Ambient Air Quality Monitoring Vans
- Purpose-built Monitoring Stations for Major Air Pollution Sources
- Environmental Monitoring Stations

Technical Specifications

| Embedded PC | OS: LINUX  
|            | DB: SQL  
| Housing:   | table top with  
|           | optional 19” brackets,  
|           | designed for indoor use in  
|           | a shelter  
| Dimensions | 19” 3HE  
| (WxHxD) & | 45 cm x 9 cm x 20 cm  
| Mass       | 2.8 kg (non-packaged net-weight)  
| Operating Temperature | +5 °C to +40 °C (internal temp. sensor switches off below 5 °C to protect PC and hard-disk)  
| Power Supply | 100-240 V, 50/60 Hz,  
|             | 60 W  
| Communication | Ethernet, optional UMTS  
|             | 3G/4G modem  

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Reseller

AQMAS-1000 Firmware

M2M API  
Web Services (http)  
LAN local IP comms

User Interface  
any OS, browser, device  
LAN local IP comms

WAN / Internet remote IP comms

Local/Remote Access

Specifications are subject to change without notice. Weights and dimensions are indicative. © HyQuest Solutions | 09.2018