AYSIX technologies

NetMeter-OMNI

Multi-Function Real-time Networked Monitoring System with Comprehensive Data Logging and Visualization Tools

APPLICATIONS

- Water monitoring
  - Irrigation
  - Water conservation
  - Quota management
- Gas monitoring
  - Remote monitoring
  - Remote billing
  - Track carbon footprint
- Steam/air flow monitoring
- Process monitoring
  - Track plant operations through real-time process data (input costs, output rates, temperature, flow, water, gas, etc.)

EASY TO USE

- Works out-of-the-box
  - No programming or special software required
- Real-time and historical data
  - View from any web enabled device: smart phone, tablet, laptop, PC, etc.
- Modular DIN rail mounted system
  - Easy to install in existing or new facilities
  - Easy to expand and customize, easy in-field upgrades
- Works with virtually any sensor
  - Pulse output devices (gas meters, water, steam, etc.)
  - Sensors with voltage output or 4-20mA current loop output (temperature, pressure, humidity, proximity, dry contact, and more)
- Self contained
  - Can be used without a central server, no ongoing fees
  - Retains data even through network and power outages
  - Built-in power backup for pulse counting
- Open system software interface
  - Published API available to allow custom software applications
  - Modbus TCP

Web Enabled Monitoring

The NetMeter-OMNI is a cost-effective way to measure and monitor virtually anything capable of being measured by a sensor. This includes pulse equipped meters (i.e. water, air, gas, steam, etc.), as well as pressure, temperature, proximity, light, or any other sensor that produces a voltage, or current loop (4-20mA) output. Real-time data is continuously available in addition to historical data from the built-in data logger.

The networking capability and built-in web based application software (apps) enable users to continuously monitor their sensors and resource usage over their local networks or even across the Internet.

Comprehensive Monitoring Solution

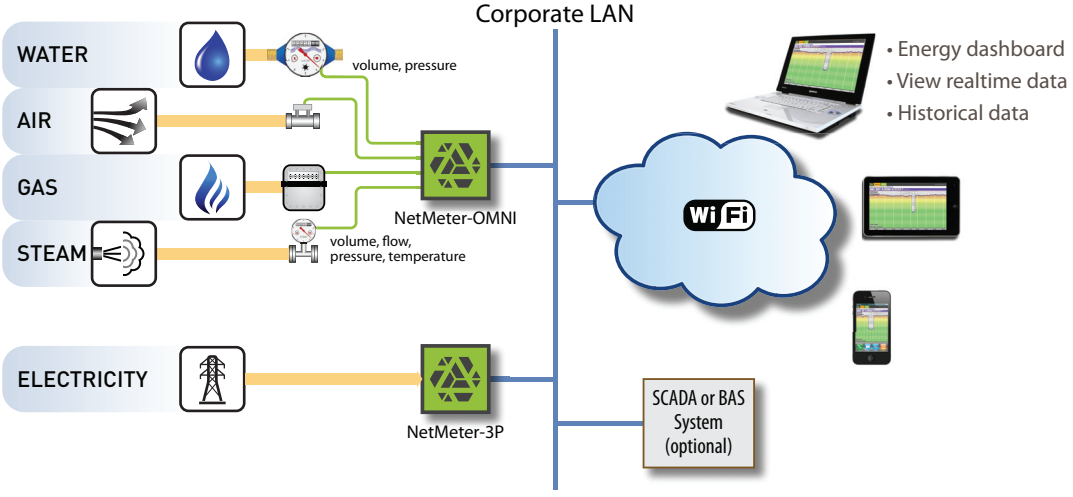
The NetMeter-OMNI augments the NetMeter-3P family of electricity meter/monitor devices to provide a complete WAGES (Water, Air, Gas, Electricity, Steam) monitoring solution. Like the NetMeter-3P, the NetMeter-OMNI has an on-board web server that can be accessed by any desktop or mobile device with a web browser. The graphically rich dashboards and user interface are intuitive, easy to use, and provide easy sensor setup.

How it Works

The NetMeter-OMNI device utilizes the popular DIN rail standard for mounting. Each NetMeter-OMNI module can monitor up to 8 inputs. It continuously captures data from the attached sensors and stores it in the large built-in non-volatile memory for years' worth of data history.

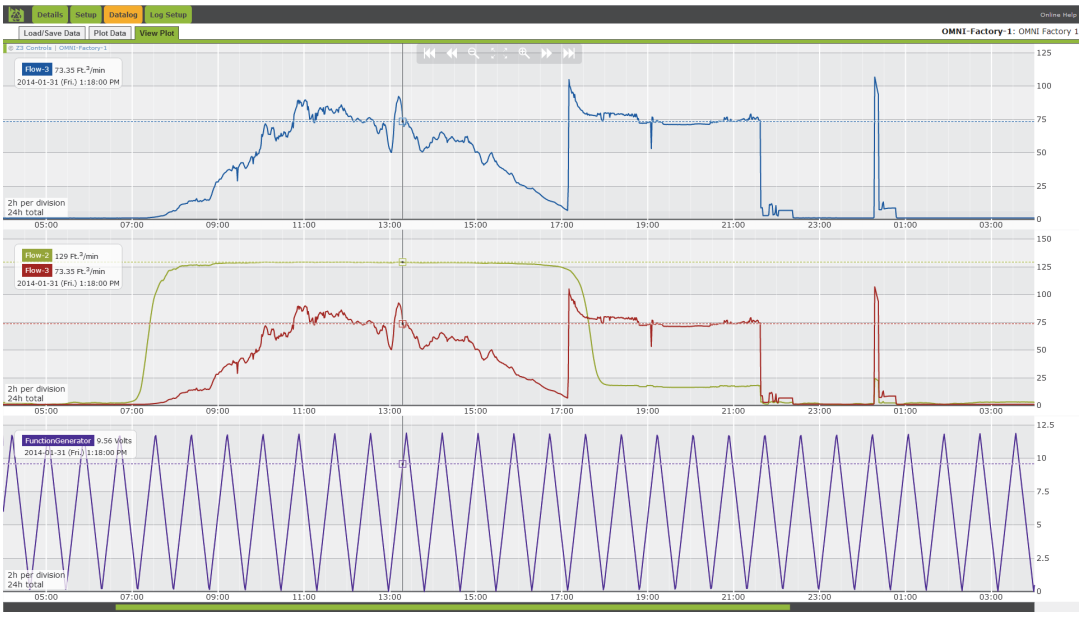
Multi-mode Flexible Inputs

In order to accommodate a wide range of sensor inputs, the NetMeter-OMNI enables each of the 8 input channels to be configured for either



NetMeter-OMNI System Diagram

Built-in Datalogger with Interactive Plotting from a Standard Web Browser



voltage or current mode. In addition, each voltage/current input can be interpreted as binary (with pulse counting) using programmable thresholds, or as a high-resolution analog value.

A built-in energy-storing device allows pulse counting to be maintained during blackouts for up to 12 hours with options for even longer blackout protection.

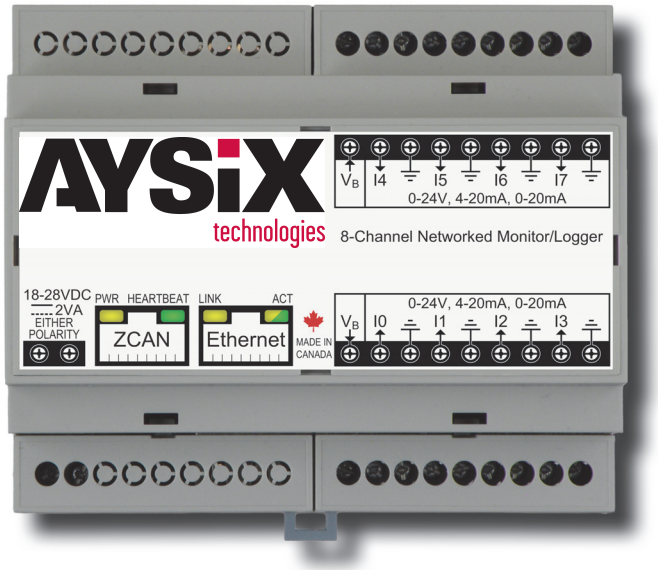
Plug-and-play Operation

A self-contained web server inside the NetMeter-OMNI serves up a full featured user interface that may be accessed using a standard web browser: there is no need to install or maintain an application program on the user's computer.

Device setup is easy using the web interface. For pulse measurement, simply set the volume of water/air/gas/steam per pulse, define the units of measure, and cost per unit. For analog inputs (pressure, temperature, flow, etc.) the scale factor and offset may be defined for each channel.

Real-Time/Historical Data

Years of captured data can be stored in the built-in data logger. Logged and real-time data and can be viewed either graphically or numerically with sub-second updates for immediate feedback.



Specifications:

Inputs:

- 8 multi-mode inputs
  -Voltage mode: 0-24V with 1mV resolution
  -Current loop mode: 0-20mA/4-20mA with 1uA resolution

Pulse mode operation:

- Either voltage or current mode
  -Supports KYZ output mechanical meters
  -Up to 24V pulse for voltage mode operation
  -Backup voltage for KYZ devices during loss of power
- Up to 400 pulses per second (400Hz), over a trillion counts (48 bits)

Built-in web server and data logger

- 10/100 Ethernet communication
- User friendly setup to configure each input channel
- 16MB of flash memory for years of data retention
- Interactive plotting
- Documented API for custom applications to access data

Module Power

- 18-28VDC, <2VA

Connections

- Sensor Inputs: 16 position screw terminals
- Backup power: 2 position screw terminals
- Module power: 2 position screw terminals
- Ethernet: RJ45 connector
- ZCAN expansion connector: RJ45

Communication

- HTTP, HTTPS, ICMP, NetBIOS, JSON-REST API
- Modbus TCP

Modbus