

ATHENEA

Self powered water quality telemetry system

Application:

- **Water distribution network**
- **Service reservoir**

System Advantages

Water distribution networks can now benefit from efficient real time monitoring of:

- Disinfection efficiency
- Consumption patterns
- Pipes over pressure
- Leakage detection
- Mix water sources quality

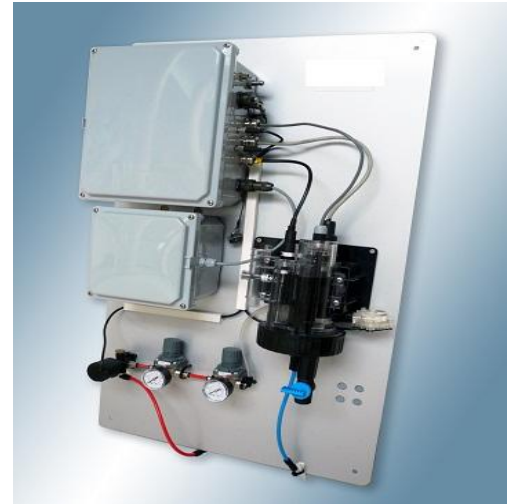
Saving municipal expenses and maintaining public safety.

Reliable, Long Term Operation

The ATHENEA is a unique, patent pending, Low-power consumption system. Longer battery operation coupled with minimum calibration requirements allows for reduced site visits and minimized maintenance. Furthermore, Water proof enclosure facilitates reliable operation which is Ideal for isolated locations.

Real Time Telemetry and Data Logging

The ATHENEA data measurements and alarms are locally logged as well as reliably transmitted through SMS/GSM GPRS communication. The ATHENEA open data protocol allows for easy integration with any SCADA System.



- Free Chlorine, pH, Temperature, Pressure, Flow & Conductivity Measurements
- Battery operated low energy consumption
- Ready to measure on demand
- Electrode standby when no flow and no Chlorine
- Reliable, long-term operation
- Data logging
- IP68 water proof
- SMS/GSM/GPRS communication
- Data and alarms transmission and management
- Open data protocol for integration in any SCADA system
- Enables efficient disinfection monitoring & leakage detection

Your Water Quality Partner



ATHENEA Specifications

PHYSICAL		CI MEASUREMENT	
Analyzer dimensions	31.5" x 18.5" x 1.6" (800 x 470 x 40 mm)	Electrode	Passive-operated sensor with gold cathode & silver/silver chloride
Cable connectors	IP68 Pg glands and military connectors	pH operation	4-8
Enclosure	8.5" x 10.6" x 5.5" 215 x 270 x 140 mm Polycarbonate IP68	Range	0-2ppm or 0-10ppm
Operation temperature	14°F - 131°F (-10°C - 55°C)	Resolution	0.01 ppm
Weight analyzer / logger	6.6 lbs. (3 kg) / 4.4 lbs. (2 kg)	Repeatability	± 0.1% span
POWER SUPPLY		Operating time of filling	Typically 12 months
Analyzer	12VDC external battery powered 12 months autonomy (1 reading/h)	Minimum flow velocity	15 cm/s
Modem	Internal lithium battery 4 - 5 years	Upward response	90%<2 min, 99%<5 min.
LOCAL COMMUNICATIONS		Downward response	90%<0,5 min, 99%<3 min.
Analyzer-PC	Serial port RS485/ RS232 (19,200 bps)	Body material	PVC
GSM COMMUNICATIONS		Membrane material	PTFE
Modem	GSM with programmable	Membrane cap material	PBT (GF30), PVDF
INPUTS / OUTPUTS		FLOW	
Digital output	3 ways solenoid valve	Sensor	Rotational flow switch
Flow channel (optional)	REED type	Output	Volt free contact
Pressure channel	Internal pressure transducer	Operational pressure	14.5 psi (1 bar)
Rest of parameters	Serial port RS232	Minimum flow	30 l/h
pH		CONDUCTIVITY	
Range	0 - 14	Sensor	Contact conductivity
Electrode	Ceramic diaphragm and gel filling	Cell constant	K = 1
Input impedance	0.5 x 10 ¹² Ω	Range	0 -2500 µs/cm
Resolution	0.01	Measuring surface	Graphite
Repeatability	0.1% of reading	Body material	Epoxy
Zero drift or Span drift	0.03% /°C	Temperature compensation	Via PT – 100
TEMPERATURE		DATA LOGGING	
Sensor	PT-100	Memory	Cyclic and block mode
Range	32°F to 158°F (0°C to 50°C)	Capacity	49,152 readings
Resolution	0.1°C	Mode	Count and event
Repeatability	0.03%	Frequency (water quality parameter)	15 min - 1 hour
FLOW		Frequency (flow and	15 min
Sensor	Rotational flow switch	Event logging	Yes
Output	Volt free contact	Alarms	SMS
Operational pressure	14.5 psi (1 bar)	SOFTWARE	
Minimum flow 30 l/h	flow 30 l/h	Logger	Programming, data analysis & management (Windows based)
		Analyzer	On-line visualization and calibration (Windows based)