American Control Technologies, Inc.

ACT Goes Green

the

complete wireless solutions

DataHopper AMR Series

General

Frequency	902-928 MHz
Spreading Type	Frequency hopping, direct FM
Network Topology	Point-to-point, point-to-multipoint
Channel Capacity	7 hop sequences share 25 frequencies
Serial Data Interface	RS-232/422/485
I/O Data Rate	1200-57,600 bps

Power Requirements

Supply Voltage	5 VDC regulated
Transmit Current	150 mA
Receive Current	50 mA
Power Down Current	26µA

Physical Properties

Case Size	
Weight	
Connector	
Operating Temperature	

Certifications

FCC Part 15.247	OUR9XSTREAM
Industry Canada	4214A-9XSTREAM
Europe	N/A

Antenna

Integrated Wire	¼ wave monopole
Spreading Type	Frequency hopping, direct FM
Network Topology	Point-to-point, point-to-multipoint
Channel Capacity	7 hop sequences share 25 frequencies
Serial Data Interface	RS-232/422/485
I/O Data Rate	1200-57,600 bps

Performance

Indoor/Urban Range	Up to 1500'(457 m)
Outdoor LOS Range	Up to 7 mi. (11 km) w/ dipole U to 20 mi. (32 km) w/ high-gain
Serial Data Throughput	1200 bps 9600 bps 19.2 kbps
RF Baud Rate	1280 bps 10,000 bps 20,000 bps
Transmit Power	140 mW (21.5 dBm)
Receiver Sensitivity	-114 dBm

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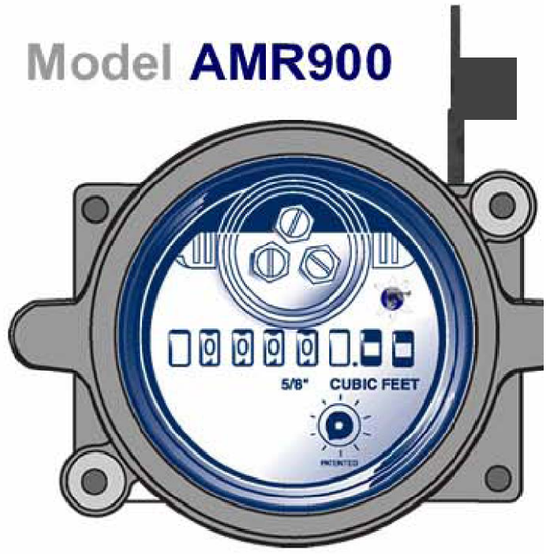
Overview

American Control Technologies, Ltd. AMR 900, Automatic Reading solution takes advantage of the ACT wireless SCADA network. By placing AMR data on the same wireless network as the SCADA data, this eliminates the cost of installing and operating a totally separate system, reduces spare parts and inventory, and streamlines personnel training. Totalized water usage can be gathered each day for every consumer, automatically, compatible with many billing software packages.

Performance

The Model AMR900 alerts the control center upon detection of leaks, burst pipes or faulty units, including their exact location, for quick and efficient troubleshooting. This means that considerable volume of water can be saved. The Model AMR900 can be remotely accessed from distances exceeding 20 miles LOS (line of sight).

Model **AMR900**



Features:

- Compatible with all water, gas, electricity meters with pulse outputs
- Real time fault detection
- Wireless and cable free so easy to install
- Retries & acknowledgements for guaranteed packet delivery
- Area wide networks possible using repeater units to extend radio coverage
- Up to 65,000 network addresses available
- Seamlessly connects to DataHopper 900 series
- Compatible with billing software
- Long range – 20 miles LOS
- Nema 4X enclosure
- Included battery gives up to 6 years of trouble free operation

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Meter Reading NetworkOverview

Control Room

SCADA CPU

Billing CPU

7. The SCADA network computer displays and stores all water distribution system data.

9. The system can be configured to detect abnormal consumer usage (as in the case of a leak) and notify the apporpriate operational personnel.

8. The collected water consumption data can be available to many billing software systems, providing a complete and simple data collection and billing system.

MTU

SCADA Network

6. Master radio collects data from all locations and transmits it to the corresponding local LAN device.

Master Radio

Water Tank

Water Tanks in the system have their informaiton transmitted to the Control Room by radio

Repeater Radio

5. Repeater radio relays both SCADA data and water meter data back to Master radio.

Homes w/ wireless Meter Readers

Meter Network

2. The wireless meter network transfers consumption information to the master meter radio.

Pump Station

Pump Stations in the system have their information transmitted to the Control Room by radio

Slave Radio

1. Water consumption data is stored in the local wireless meter reader.

Wireless Meter Reader

Master Meter Radio

3. The local master meter radio polls each wireless meter and saves individual totalized usage data.

Slave Radio

4. A slave radio reads and transmits data collected the Master meter radio and transmits it onto the SCADA network to the Master radio upon request by the billing CPU.

RF Link

Ethernet Conneciton

Serial Connection