

FEATURES

- 5 analog/digital sensor ports
- 1 RS-485 serial port
- 1 RS-232 serial port
- 3 relay/valve control ports
- 2-way radio link to RM210 stations
- 2.4GHz and 900Mhz models available
- Up to 3 mile range from base station
- Includes 2W solar panel
- Die-cast aluminum enclosure
- Includes integrated mounting bracket ready for deployment

APPLICATIONS

- Micro-climate tracking
- Multi-site soil moisture tracking
- Wireless valve control
- Remote pump control
- Water tank/pond level tracking
- Irrigation control and monitoring

DIFFERENTIATORS

- Lower cost than traditional UHF/SCADA technology
- Longer range than other 802.15/mesh technologies
- Lower cost of installation and relocation
- Lower cost of maintenance
- Broad range of sensor support
- Relay/valve control capability
- More durable construction
- Built-in solar panel and charger

DESCRIPTION

The RS210 is a family of telemetry nodes designed specifically for outdoor medium-range telemetry applications where advanced features and reliable operation are required at a comparatively low cost.

Compared to other mesh networking nodes based on 802.15 technology, RS210 nodes have longer range, are more robustly constructed and are easier to install and maintain. Compared to traditional UHF/SCADA telemetry, RS210 nodes provide higher bandwidth, a more advanced two-way feature set and more reliable operation at a significantly lower cost.



SENSOR SUPPORT

RS210 nodes have been tested with a wide range of 3rd party sensors, ensuring compatibility with economical and effective sensors suitable for almost any application.

Examples of supported sensors include:

- Temperature
- Relative Humidity
- Wind speed and direction
- Solar radiation
- Multi-level soil moisture
- Tensiometers
- Water flow (drip lines)
- Water flow (main lines)
- Water Level (submersible)
- Water pressure (psi)
- PH

RELAY PORTS

The RS210-PRO nodes come equipped with 3 relay ports capable of switching a range of low voltage loads, including irrigation valves. Combined with external relays, large loads - such as pumps and equipment starters - can be controlled. Ports are also configurable for directly driving 9V DC latching solenoids, eliminating need for external valve power source.

INSTALL & MAINTENANCE

RS200 nodes ship complete with an integrated mounting bracket also holding solar panel and terminating in a 3/4" compression fitting. The only supply required for typical installation is a 10 foot 3/4" metal pole (such as standard conduit) which is attached to a stake in the field using metal straps.

Initial configuration of the node can be performed in the field via the serial port, or more typically, over-the-air via laptop equipped with an 802.15 modem.

RS210 nodes can be maintained after installation using the Ranch Systems cellular terminal server, which enables remote login to any RS210 node via its coordinating RM210 base station. This mechanism also allows for re-flashing of the RS210 firmware.

SPECIFICATIONS

Radio Options	
Frequency band	2.4 Ghz 900MHz
Typical range	2.4GHz: ½ – 1 mile 900MHz: 1 – 3 miles
Analogue Ports	
Excitation voltage	5V
ADC Resolution	12 bit
Connectors	SwitchCraft Micro-Con-X 3pin female
Digital Ports	
Port 5	Ranch Systems proprietary serial bus for 12 bit temperature sensor (Micro-Con-X 3 pin female)
Port 6	Composite serial port featuring RS-485 as well as RS-232 (incl. RTS/CTS). (Mini-Con-X 8 pin female)
Relay Ports	
Switching options	N.O., 9V DC Latching, 9V digital output
Maximum 9V capability	1A (fused)
Maximum switched power	48V, 0.5A
Power	
Solar panel	2W (included)
Internal battery	9.6V NiMH (2400 mAh)
Typical run time without sunlight	1-2 weeks
General	
Dimensions (H x W x D)	4" x 9.3" x 4.5" (without antenna)
Weight	2.8 lbs
Approvals	USA, Canada, Australia, Europe, Japan (Power restrictions apply in Europe)

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