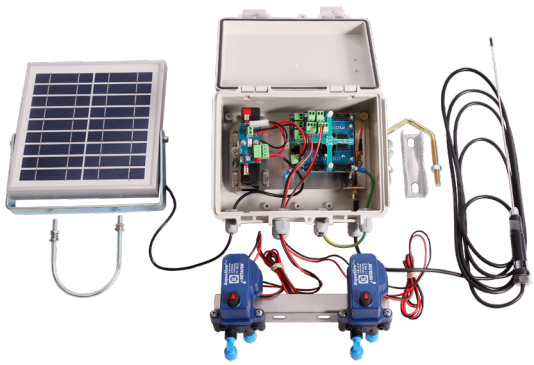
NETAFIM™
GROW MORE WITH LESS

RADIONET
UNIFIED WIRELESS MONITORING AND CONTROL SYSTEM

DIGITAL FARMING

RadioNet is a two-way communication system. It is a unified wireless monitoring and control system. RadioNet can activate an output on a RTU (remote terminal unit) through a linked input on another RTU. RadioNet enables you to get digital input feedback from the field to the controller, such as remote water meter logging. The status of each RTU can be assessed on the controller, and alerts are sent when necessary. This refers to statuses such as low battery power, a solenoid not opening or no connection to the unit. The development of the GrowSphere™ controller and its use with RadioNet capabilities such as activity pending action status when opening and closing valves. If a valve is opened, it's status will show as open, but pending, until it has successfully opened, and a confirming signal has been sent back to the controller.



This solution has been making an impact on farms for many years and has received important updates. The base station has been significantly upgraded with a new local design. Batteries used in the remote terminal units (RTUs) can be either SLA or LiFePO4 batteries. LiFePO4 will be implemented as the preferred choice.

Benefits & Features

Wireless	Optimised seamless network enables exceptional system architecture with enhanced throughput in virtually any environment.
Scalability	Provides almost unlimited control and monitoring configurations to simply expand modules and strengthen performance.
Built-in survey mode	Ensures optimal long-term operation with instant spectrum analysis by recording and charting frequency interruptions across the entire network from the initial unit installation.
Extended coverage	Each RTU can operate as a store and forward (S&F) data repeater to increase geographical coverage of up to 5 km (depending on topography) between every 2 units and up to 14 hops. This function also supports redundant data transfer and dead spot elimination to achieve increased data reliability.
Compatibility	Versatile and easy connectivity (using Modbus protocol) to a wide range of controllers currently on the market. This makes Radionet a modular, cost-efficient tool for future growth.
Energy efficiency	Designed for low power consumption, operates mostly in sleep mode, reporting and controlling when needed to ensure extended battery life. Each unit can be powered by rechargeable batteries and solar cell.
Secure communication	Provides increased data security operation with multiple layers of encryption and time-based data authentication.
Reliable in all conditions	The remote units temperature range is -25°C to 85°C which ensures reliable operation under the most severe environmental conditions.

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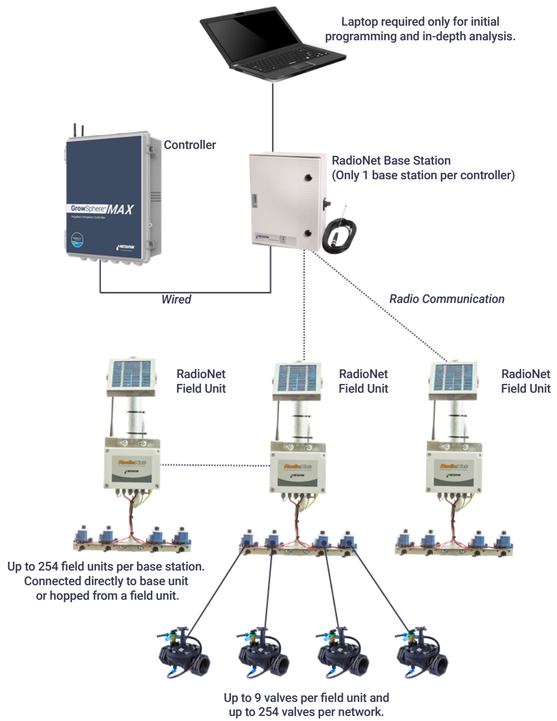
RTU Specifications

- Expansion slots: 4
- Coverage: Up to 5 km between units, with up to 14 relays/hops. (Depending on topography)
- Temperature range for reliable operation: -25°C to 85°C
- Frequency: From 402 to 474 Mhz, band with 12.5 KHz
- Power: 1 - 40 mWatt
- Hardware capacity: Up to 254 RTU's per network with 2286 outputs and 2540 inputs
- Supply Power: 6 VDC, output 12 -16 VDC latch

System Infrastructure

RadioNet is an all-in-one scalable solution featuring an advanced and modular design. It is comprised of remote terminal units (RTUs), radio frequency (RF) communications, and software to enable long-distance wireless monitoring and control.



Ordering Information

	CATALOGUE NUMBER	DESCRIPTION
		HEAD CONTROL ROOM
	00237-100000	Base Station
	00245-001140	Heavy duty antenna wall bracket
	00245-001160	Antenna pole 6 m x 50 mm aluminium
	00245-001144	R-Net Monopole Ant. Adaptor for pole
	00255-000665	Earth kit (Rod + clamp + 10 m cable)
FOR NMC PRO CONTROLLERS - Need to add addition card(s) to enable radionet I/O's		
	74340-008920	NMC - Remote dummy card (8DO)
	74340-009530	NMC - Pro license key 128 remote outputs
	74340-009560	NMC - Pro license key 256 remote outputs
		IN-FIELD STATIONS
	00237-100001	Radionet 1 station field unit
	00237-100004	Radionet 2 station field unit
	00237-100006	Radionet 3 station field unit
	00237-100007	Radionet 4 station field unit
	00237-100008	Radionet 5 station field unit
	00237-100009	Radionet 6 station field unit
	00237-100010	Radionet 7 station field unit
	00237-100011	Radionet 8 station field unit
	00237-100012	Radionet 9 station field unit
Unit consists of RTU (upgradable), antenna, 6V battery, solar panel kit, solenoid bracket and aquativ DC solenoids. Excludes: Pole for mounting RTU and hydraulic tubing to valves.		
	00237-100002	Radionet 1 st. pump start (2x2)
Unit consists of 2 x 2 RTU (not upgradable), antenna, 6V battery, solar panel kit, DC Relay for pump start. RTU consists of 2 digital outputs & 2 digital inputs only. Excludes: Mounting pole for RTU and additional cabling.		
	00237-100003	RADIONET 1-STATION FIELD UNIT (2X2)
	00237-100005	RADIONET 2-STATION FIELD UNIT (2X2)
Unit consists of 2 x 2 RTU (not upgradable), antenna, 6V battery, solar panel kit, solenoid bracket and aquativ DC solenoids. RTU consists of 2 digital outputs & 2 digital inputs only. Excludes: Pole for mounting RTU and hydraulic tubing to valves.		

	CATALOGUE NUMBER	DESCRIPTION
		IN-FIELD EXTRAS
	00245-001160	Antenna pole 6 m x 50 mm aluminium
	00245-001144	R-Net Monopole Ant. Adaptor for pole
	00245-001142	50mm U-Clamp
	00255-000665	Earth kit (Rod + clamp + 10 m cable)
Above items are not included in the Radionet field stations. If required, please add 1 of each per field station, with multiple U-Clamps for the solenoid brackets.		
	00237-100013	NMC R-Net Antenna 3m to 10m upgrade kit
Use this code to upgrade a field station from an antenna with a 3-meter cable, to an antenna with a 10 meter cable		
		SPARES
	74330-012195	RTU 2X2
	74330-012200	RTU SAF expandable
	74330-005760	RADIONET SOLAR PANEL KIT 9V-3W
	74330-013140	Expansion card 2x2
	74330-000004	R-NET LIFEPO4 LITHIUM BATTERY 6.4V 1.4AH
	00235-000370	DC Relay interface for pump start
	3550-001900	Aquativ DC solenoid
See Automation Pricelist for a spares list.		

RADIONET:

MODULAR DESIGN AND HIGH LEVEL OF SCALABILITY
LONG-DISTANCE SIGNAL CAPABILITIES
CAN BE EASILY INTEGRATED INTO EXISTING SYSTEMS
INCLUDES REPEATER TECHNOLOGY
OFFERS RELIABLE AND FLEXIBLE CONTROL
ENERGY EFFICIENT

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