

RF-V1

VALVE CONTROL AND MONITORING NODE

The RF-V1 is designed to control latching solenoid valves and monitor flow, pressure, and other field conditions with minimal power usage and simple installation.

This node is a dedicated solution for valve control. It wirelessly connects to a LoRa expansion connected to an RF-C1, thereby integrating into the WiseConn network.

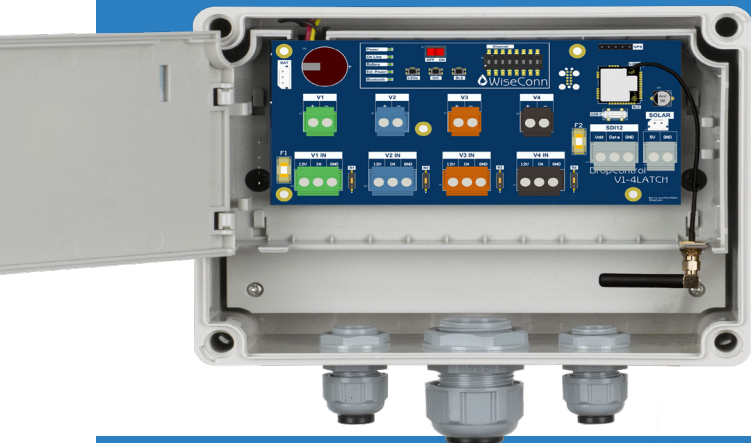


V1 TECHNOLOGY

- Star network up to 3 miles radius with Line of Sight (LOS), 0.5 miles with no LOS from any RF-C1 using MOD-C1-LORA.
- Ultra Low Power Mode - allows operation up to a year or more with a single battery charge.
- Wide variety of valve control options, with alarms and flow control.
- Up to 30 RF-V1 nodes per MOD-C1-LORA and up to a maximum of three MOD-C1-LORA per RF-C1.
- Patented Irrigation Management.

V1 DEVICE FEATURES

- 2 or 4 valve control versions.
- 4 inputs for pulse flowmeter or pressure switches.
- 1 SDI12 serial port for soil moisture probes or other compatible devices.
- NFC tag for easy service and configuration.
- IP65 enclosed outdoor protection.
- Includes USB-C port and 5V solar panel port for easy charging.
- Cloud-based scheduling, local control in RF-C1.
- Cloud software configurations and support.



V1 APPLICATIONS

- Valve control.
- Flowmeter monitoring.
- Pressure switch monitoring.
- Soil moisture and weather monitoring.



VERSIONS

Version	Valve Outputs	Digital Input	SDI12	Battery Size	Solar Panel	Battery Life
RF-V1-900-4LATCH-BATT	4	4	YES	31,200 mAh	-	15 months
RF-V1-900-4LATCH-SOLAR	4	4	YES	13,000 mAh	10W	Unlimited
RF-V1-900-2LATCH-BATT	2	4	YES	31,200 mAh	-	15 months
RF-V1-900-2LATCH-SOLAR	2	4	YES	13,000 mAh	10W	Unlimited

OPTIONAL/ADDITIONAL PARTS

- Compatible with most X1 and M1 accessories.
- External antennas and extension cables available, for longer range.
- GPS adapter to track the node's position with ACC-GPS (coming soon).

MOD-C1-LORA

- Lora Communication module is needed for the RF-C1 to control up to 30 RF-V1s.
- Wired to the RF-C1 through the CAN bus used for other expansion modules.
- Comes with a 3dbi outdoors antenna and 25ft cable.
- Up to 3 MOD-LORA modules per RF-C1 allows the connection of up to 90 RF-V1s per RF-C1.



RF-V1 SPECIFICATIONS

Processor	<ul style="list-style-type: none"> • RAK11720 (ARM 32bit Cortex®-M4F)
Radio	<ul style="list-style-type: none"> • LoRa Point-to-Point (P2P), 900Mhz, based on SX1262
Antenna	<ul style="list-style-type: none"> • Dipole
Dimensions	<ul style="list-style-type: none"> • 180 x 200 x 100 mm (7 x 8 x 4 in)
Enclosure	<ul style="list-style-type: none"> • IP outdoor rugged UV resistant polycarbonate enclosure
User Interface	<ul style="list-style-type: none"> • Status LEDs: Communication, battery, power, and operation
Power and Consumption	<ul style="list-style-type: none"> • 13000 or 31200mAh Lithium (Li-ion) batteries • Power consumption < 30 µA in sleep mode
Inputs and Outputs	<ul style="list-style-type: none"> • 4x or 2x 2-wire latching solenoid outputs depending on model (4700uF capacitor charged at 16V, 1.7A max) • 4x Digital inputs: Counter (up to 40Hz) or discrete (9 to 24 VDC) with an integrated 12V power source (max output current: 62 mA, fused) • 1x SDI12 interface with an integrated power source (max output current: 160 mA , fused) • 1x 5V solar panel input (terminal and Molex connector) • 1x Service and charge USB-C port
Synchronization	<ul style="list-style-type: none"> • Local RF synchronization every 30 seconds • Sending data to the cloud every 15 minutes • 2 minute alarms and alerts delay
Expansions	<ul style="list-style-type: none"> • GPS module expansion slot (soon)



Cloud Services: The V1 nodes include a license to connect to the WiseConn platform, which facilitates the configuration, visualization, and access to mobile applications and allows use by multiple users.

