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V.2 Wireless

Utilizing Spread Spectrum technology at the transmitter level, Rees Scientific's New V.2 Wireless Monitoring System offers collision avoidance, receiver energy detection, link quality indication, clear channel assessment, acknowledgement and security.

Our new modules can monitor up to 4 inputs each (depending on model). When powered by the building's AC power, they serve as both transmitters and routers making this system less hardware intensive. Each module can buffer up to 7 days' worth of data at a logging rate of every 15 minutes. Modules can support the entire range of Rees Scientific sensors. All communications are Spread Spectrum for vastly enhanced communication reliability over older single channel 418 MHz transmission.



V.2 WiFi

Rees Scientific's new V.2. WIFI transmitters offer the same great reliability, security, & flexibility you've come to expect from the company you trust. Designed to reduce the overall installation footprint, the new line of WIFI transmitters utilize your existing infrastructure to minimize site impact and get you up and running fast.

Able to accept up to 4 industry standard inputs, each module can buffer up to 7 days worth of data. Modules can support the entire range of Rees Scientific sensors.



Universal Transmitter

Our modules can monitor up to 4 inputs each (depending on model). Each module can buffer up to 7 days' worth of data at a logging rate of every 15 minutes. Modules can support the entire range of Rees Scientific sensors. Works with reescloud and on-premise installations.

Communication Option

WiFi (see page 3)

Zigbee (see page 3)

Network Connected

Type	Order #
US Part Numbers	
1 input with Zigbee	V2-U1
2 inputs with Zigbee	V2-U2
4 inputs with Zigbee	V2-U4
1 input with WiFi	V2-U1-WF
2 inputs with WiFi	V2-U2-WF
4 inputs with WiFi	V2-U4-WF
Non US Part Numbers	
1 input with Zigbee for Europe	V2-U-1-EV
2 inputs with Zigbee Europe	V2-U-2-EV
4 inputs with Zigbee Europe	V2-U-4-EV
1 input with WiFi Europe	V2-U-1-EV-WF
2 inputs with WiFi Europe	V2-U-2-EV-WF
4 inputs with WiFi Europe	V2-U-4-EV-WF
Optional Zigbee AC Power Supply 6-9V DC 300mA	V2-TRANS
Replacement 3.6 Volt Battery	V2-BATT

For Specifications please see page 13

Note: Requires Centron Presidio or Centron SQL Software Build 1012 or higher.

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Output Relay

Output relay option for V2 modules. Can be used to control remote audible visual alarms, trigger a remote alarm system, control lights etc. Includes factory installed V2-U-1. When used to control lights or other high current applications, please use RELAY-PWR. Works with reescloud and on-premise installations.

Communication Option

Zigbee (see page 3)
Network Connected

Type	Order #
V.2 module with output relay functionality	V2-OUTPUT-RLY
V.2 network connected output relay with 1 input and 1 output	V2-DIRECT-U1-R
V.2 network connected output relay with 2 inputs and 1 output	V2-DIRECT-U2-R
V.2 network connected output relay with 4 inputs and 1 output	V2-DIRECT-U4-R

For Specifications please see page 14

Note: Requires Centron Presidio or Centron SQL Software Build 1012 or higher.

Temperature, Humidity, and Light transmitter

Rees Scientific Temperature, Humidity, and Light transmitter.
Works with reescloud and on-premise installations.



Communication Option

WiFi (see page 3)

Zigbee (see page 3)

Type	Order #
Wireless Ambient Temperature Transmitter with Zigbee	V2-T
Wireless Ambient Temperature and Humidity Transmitter with Zigbee	V2-T/H
Wireless Ambient Temperature, Humidity, Light Transmitter with Zigbee	V2-T/H/L
Wireless Ambient Temperature Transmitter with WiFi	V2-T-WF
Wireless Ambient Temperature and Humidity Transmitter with WiFi	V2-T/H-WF
Wireless Ambient Temperature, Humidity, Light Transmitter with WiFi	V2-T/H/L-WF
Wireless Ambient Temperature Transmitter with Zigbee for Europe	V2-T-EV
Wireless Ambient Temperature and Humidity Transmitter with Zigbee for Europe	V2-T/H-EV
Wireless Ambient Temperature, Humidity, Light Transmitter with Zigbee for Europe	V2-T/H/L-EV
Wireless Ambient Temperature, Humidity, Light Transmitter with WiFi for Europe	V2-T/H/L-EVWF
Optional Zigbee AC Power Supply 6-9V DC 300mA	V2-TRANS
Replacement 3.6 Volt Battery	V2-BATT

For Specifications please see page 15

Note: Requires Centron Presidio or Centron SQL Software Build 1012 or higher.

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Transmitter with Local Alarm

Rees Scientific transmitter with local alarm. Also Works with Temperature, Humidity, and Light transmitters. Works with reescloud and on-premise installations.



Communication Option

- WiFi (see page 3)
- Zigbee (see page 3)
- Network Connected

Type	Order #
1 input with Zigbee and Local Alarm	V2-U-1-L
2 inputs with Zigbee and Local Alarm	V2-U-2-L
4 inputs with Zigbee and Local Alarm	V2-U-4-L
1 input with WiFi and Local Alarm	V2-U-1-L-WF
2 inputs with WiFi and Local Alarm	V2-U-2-L-WF
4 inputs with WiFi and Local Alarm	V2-U-4-LWF
1 input with Zigbee and Local Alarm for Europe	V2-U-1-EV-L
2 inputs with Zigbee and Local Alarm for Europe	V2-U-2-EV-L
4 inputs with Zigbee and Local Alarm for Europe	V2-U-4-EV-L
1 input with WiFi and Local Alarm for Europe	V2-U-1-EV-L-WF
2 inputs with WiFi and Local Alarm for Europe	V2-U-2-EV-L-WF
4 inputs with WiFi and Local Alarm for Europe	V2-U-4-EV-LWF
Wireless Ambient Temperature Transmitter with Zigbee and Local Alarm	V2-T-L
Wireless Ambient Temperature and Humidity Transmitter with Zigbee and Local Alarm	V2-T/H-L
Wireless Ambient Temperature, Humidity, Light Transmitter with Zigbee and Local Alarm	V2-T/H/L-L
Wireless Ambient Temperature Transmitter with WiFi and Local Alarm	V2-T-L-WF
Wireless Ambient Temperature and Humidity Transmitter with WiFi and Local Alarm	V2-T/H-L-WF
Wireless Ambient Temperature, Humidity, Light Transmitter with WiFi	V2-T/H/L-L-WF
Wireless Ambient Temperature Transmitter with Zigbee for Europe	V2-T-EV-L
Wireless Ambient Temperature and Humidity Transmitter with Zigbee , Local Alarm for Europe	V2-T/H-EV-L
Wireless Ambient Temperature, Humidity, Light Transmitter with Zigbee, Local Alarm for Europe	V2-T/H/L-EV-L
Wireless Ambient Temperature, Humidity, Light Transmitter with WiFi and Local Alarm for Europe	V2-T/H/L-EVLWF
Optional AC Power Supply 6-9V DC 300mA	V2-TRANS
Replacement 3.6 Volt Battery	V2-BATT

For Specifications please see page 15

Note: Requires Centron Presidio or Centron SQL Software Build 1012 or higher.

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Wireless Ambient Sensor for use inside Refrigerator and Freezer

For use inside standard refrigerators and freezers for monitoring temperature range of -30 to 60° C.

Each module can buffer up to 7 days' worth of data at a logging rate of every 15 minutes. Works with reescloud and on-premise installations.

Communication Option

Zigbee (see page 3)



Type	Order #
Wireless Ambient TempTransmitter inside Refrigerators and Freezers	V2-T-REF/FRZ
Replacement 3.6 Volt Battery	V2-BATT

For Specifications please see page 16

Wireless USB Coordinator

The V.2 Wireless USB Coordinator serves as an end-point for the V.2 wireless network. It is connected to the Rees Scientific Centron, or Virtual Node via USB and relays the transmissions from all V.2 wireless sensors to the node.



Communication Option

Zigbee (see page 3)

Type	Order #
Zigbee Wireless USB Coordinator	V2-CRD

Note: Requires Centron Presidio or Centron SQL Software Build 1012 or higher.

For Specifications please see page 16

V.2 Net Wireless Coordinator

A 4 hour battery backed up network device that will connect V.2 transmitters at remote sites back to a central node over the organization's existing TCP/IP Network. Requires IP address.

Easily monitor sensors on the other side of your facility, across campus, or across country. Works with reescloud and on-premise installations.



Communication Option

WiFi (see page 3)
Zigbee (see page 3)

Connection

- Requires 120 VAC or 230 VAC power
- Maximum wireless transmission receiver range indoors 300ft
- Ethernet connection required

Type	Order #
Zigbee Net Wireless Coordinator	V2-NET

Note: Requires Centron Presidio or Centron SQL Software Build 1012 or higher

For Specifications please see page 16

Networked V.2 Module

Easily monitor sensors on the other side of your facility, across town or across the globe. This module plugs right into your network and will monitor 1, 2 or 4 directly connected inputs. Ideal for equipment rooms, operating rooms, nurse's station, etc. Works with reescloud and on-premise installations.



Type	Order #
1 input	V2-Direct-U1
2 inputs	V2-Direct-U2
4 inputs	V2-Direct-U4

For Specifications please see page 14

Differential Pressure Transmitter

The V2-DP differential pressure sensor is used to measure the difference in pressure between two points. Able to be tucked away in the smallest of spaces, integrating a battery backup, and requiring no wires to be pulled for communicating back to a panel, the V2-DP can be used in situations that were previously impossible. Specific applications are: measuring the pressure difference across an air handler for efficiency, ensuring positive air pressure between a room and hallway, or guaranteeing that a laboratory hood system is working correctly. Works with reescloud and on-premise installations.



Communication Option

WiFi (see page 3)

Zigbee (see page 3)

Type	Order #
Zigbee Differential Pressure Transmitter	V2-DP
Zigbee Differential Pressure Transmitter for Europe	V2-DP-EV
WiFi Differential Pressure Transmitter	V2-DP-WF
WiFi Differential Pressure Transmitter for Europe	V2-DP-WF-EV

For Specifications please see page 14

Specifications

Universal Transmitter with Zigbee

- Transmitters buffer 7 days of readings history recorded at 15 minute intervals.
- Most sensors in a typical install will be battery powered.
 - Battery Back Up Time:**
 - For modules running solely on battery, battery lasts approximately 1 year.
 - For batteries running off of power supply, batteries last approximately 100 hours (twenty- five four hour power outages)
- Transmitters accept any type of Rees Scientific or industry standard input and provide 12 bit analog to digital conversion accuracy.
- 1 input, 2 input and 4 input transmitters available.
- Batteries are monitored in battery-powered units. Low batteries cause low battery alarms, which can dial out.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, and V.2 wireless sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- FCC Certified- FCC ID: OUR-XBEE2*
- Transmit Power: +1dBm non-router mode
+3dBm router mode
- Capable of connecting to an output, output board, and local alarms.
- AC power supply is optional.

Connection

- Connects to monitoring probe
- 120 VAC or 240 VAC power
- Maximum wireless transmission receiver range indoors 300ft- upgrade

Universal Transmitter with WiFi

- Standard: IEEE 802.11b/g/n
- Security: WPA-PSK and WPA2-PSK
- Transmitters buffer 7 days of readings history recorded at 15 minute intervals.
- Transmitters accept any type of Rees Scientific or industry standard input and provide 12 bit analog to digital conversion accuracy.
- 1 input, 2 input and 4 input transmitters available.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, V.2 wireless sensors & WiFi sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- FCC Certified
- Transmit Power: \leq 15dBm
- Battery backed up. Replaceable battery with S6 radios lasts for about 200 hours of total power outage and the S6B radios lasts about 450 hours of total power outage. Power outage causes a Battery Watch alarm which can dial out.
- Capable of connecting to an output, output board, and local alarms.
- Includes AC Power supply.

Connection

- Connects to monitoring probe
- May Require 120 VAC or 230 VAC power
- Connects to existing WiFi
- Maximum wireless transmission receiver range indoors 400ft- upgrade

Specifications

Output Relay

Output Switching Capabilities

- Max. operating current: 1A
- Max. operating voltage: 125 VAC, 60 VDC
- Rated load: 0.5 A at 125 VAC; 1A at 24 VDC
- For switching larger loads, use with RELAY-PWR : Max switching capacity: 62.50 VA, 30W

V.2 Capabilities

- Must be plugged in
- Transmitters buffer 7 days of readings history recorded at 15 minute intervals.
- Most sensors in a typical install will be battery powered. Batteries last approximately 1 year in a 2.4 GHz system.
- Transmitters accept any type of Rees Scientific or industry standard input and provide 12 bit analog to digital conversion accuracy.
- 1 input, 2 input and 4 input transmitters available.
- Battery becomes a battery backup.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, and V.2 wireless sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- FCC Certified- FCC ID: OUR-XBEE2*
- Transmit Power: +1dBm non-router mode
+3dBm router mode

Networked V.2 Module

- Buffers 7 days of readings history recorded at 15 minute intervals.
- Accepts any type of Rees Scientific or industry standard input and provide 12 bit analog to digital conversion accuracy.
- 1 input, 2 input and 4 input transmitters available.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, and V.2 wireless sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- Battery backed up
- Capable of connecting to an output, output board, and local alarms.

Differential Pressure Transmitter

- Pressure Range: -2.0 to 2.0 inches Water Column
- Media Compatibility: Air and non-conductive, non-corrosive gases.
- Power Supply: AC adapter. Integrated Battery backup.
- Materials: PBT, glass, silicon, gold, FR4, silicone, epoxy, copper alloy, lead-free solder.
- Pressure Connection: Barbed fitting for 3/16" ID tubing
- Accuracy: 3% of Reading
- Repeatability: 0.5% of Reading
- Operating Temperature: -20°C to 60°C (-4°F to 140°F)
- Weight: 0.40 lb (180 g)
- Capable of connecting to an output, output board, and local alarms.
- Zigbee Battery: Most sensors in a typical install will be battery powered. For batteries running off of power supply, batteries last approximately 100 hours (twenty- five four hour power outages)
- WiFi Battery: Battery backed up. Replaceable battery with S6 radios lasts for about 200 hours of total power outage.and the S6B radios lasts about 450 hours of total power outage.
- Power: 120 VAC or 240 VAC

Temperature, Humidity, and Light transmitter Zibgee

- Measures Ambient Temperature and Relative Humidity
- Also available with Integrated Light Sensor
- All communications are Spread Spectrum for vastly enhanced communication reliability over older single channel 418 MHz transmission.
- Buffers 7 days of readings history recorded at 15 minute intervals.
- Most sensors in a typical install will be battery powered. Not plugged in batteries last approximately 1 year. Plugged in battery runs 4 hours as router. Router mode ~100 hours (twenty-five four + hour power outages).
- Batteries are monitored in battery-powered units. Low batteries cause low battery alarms, which can dial out.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, and V.2 wireless sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- FCC Certified- FCC ID: OUR-XBEE2*
- Operating Temperature: -20° to 60° C
- Humidity: 0% to 100% RH non-condensing
- Transmit Power: +1dBm
+3dBm router mode
- Capable of connecting to an output, output board, and local alarms.

Temperature, Humidity, and Light transmitter WiFi

- Measures Ambient Temperature and Relative Humidity
- Also available with Integrated Light Sensor
- Buffers 7 days of readings history recorded at 15 minute intervals.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, V.2 wireless sensors & WiFi sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- FCC Certified
- Operating Temperature: -20° to 60° C
- Humidity: 0% to 100% RH non-condensing
- Transmit Power: ≥ 14dBm
- Battery backed up. Replaceable battery with S6 radios lasts for about 200 hours of total power outage and the S6B radios lasts about 450 hours of total power outage. Power outage causes a Battery Watch alarm which can dial out.
- Capable of connecting to an output, output board, and local alarms.

Specifications

Wireless Ambient Sensor for use inside Refrigerator and Freezer

- Measures Ambient Temperature inside refrigerators and freezers.
- Buffers 7 days of readings history recorded at 15 minute intervals.
- Most sensors in a typical install will be battery powered. Batteries last approximately 1 year in a 2.4 GHz system.
- Batteries are monitored in battery-powered units. Low batteries cause low battery alarms, which can dial out.
- Can be added to existing systems. A single system can contain wired sensors, Wireless Version 1 sensors, and V.2 wireless sensors.
- Dimensions (enclosure) 3.295 W X 3.295 H X 1.25 D (inches)
- FCC Certified- FCC ID: OUR-XBEE2*
- Operating Temperature: -30° to 60° C
- Capable of connecting to an output, output board, and local alarms.

Wireless USB Coordinator

- Connects Directly to Rees Scientific Centron, Satellite or Virtual Node via USB port.
- Picks up signal from V.2 transmitters.
- Receives power from Node. Reduces Node battery backup time to approximately 3.5 hours.
- Transmit Power: +3dBm

V.2 Net Wireless Coordinator

- 4 hour battery backup
- LED indicator light
- Connects directly to TCP/IP network
- Dimensions (enclosure) 4.625 W X 4.625 H X 2 3/8 D (inches)
- FCC Certified-FCC ID: OUR-XBEE2*
- Transmit Power: +3dBm
- Capable of connecting to an output, output board, and local alarms.



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Chirper Bases

Order#	Application:
V2-CH-BASE-NET	The V2 Net “Chirper” base receiver is a network device that is capable of receiving up to 16, 418 MHz “Chirper” modules. It communicates with the Centron SQL Software via your facilities existing TCP-IP LAN (local area network) and WAN (wide area network). The base is battery backed up and capable of buffering data for all 16 modules. Centron SQL Software can support up to 20 of the V2-CH-BASE-NET per system. Centron node cannot exceed 128 total inputs.
V2-CH-BASE-USB	The V2 USB “Chirper” base receiver connects to your PC via USB and is capable of receiving up to 16, 418 MHz “Chirper” modules. The base is battery backed up and capable of buffering data for all 16 modules.
V2-CH-BASE-WF	The V2 Net “Chirper” base receiver is a device that is capable of receiving up to 16, 418 MHz “Chirper” modules. It communicates with the Centron SQL Software via your facilities existing WiFi. The base is battery backed up and capable of buffering data for all 16 modules. The Centron SQL Software can support up to 20 of the V2-CH-BASE-WF per system. Centron node cannot exceed 128 total inputs.
V2-CH-BASE-ZIG	The V2 Net Zigbee “Chirper” base receiver is a device that is capable of receiving up to 16, 418 MHz “Chirper” modules. It communicates with the Centron SQL Software via a Zigbee PAN (personal area network). The base is battery backed up and capable of buffering data for all 16 modules. Note - The V2-CHBASE-ZIG will require the purchase of a V2-CRD or V2-NET. Centron node cannot exceed 128 inputs.

Specifications

- Powered by 7.5 volt DC power supply
- Requires 120 VAC or 230 VAC power
- Maximum wireless transmission receiver range indoors 300ft
- Ethernet connection required
- 2 way communication
- Zigbee chirper base battery life ~ 150 hours of total power outage
- WiFi - S6 Radios : ~120 hours of total power outage
S6B Radios: ~150 hours of total power outage

Chirper Probes

Order#	Application:
V2-CH-CRYO6	V2 “Chirper” wireless temperature module and probe - for liquid Nitrogen -200 to -125 degrees C with AA size Lithium battery.
V2-CH-T	V2 “Chirper” wireless temperature module -15 to +60 degrees C
V2-CH-T-CRT	V2 “Chirper” wireless temperature module -15 to +60 degrees C. Includes 3 Pt NIST Certificate.
V2-CH-TH	V2 “Chirper” wireless temperature and humidity module. Temperature -15 to +60 degrees C; RH accuracy +/- 3%.
V2-CH-TPT3	V2 “Chirper” wireless temperature module and probe - Type 3 -50 to +30 degrees C with AA size Lithium battery. For use in refrigerators and standard -30 freezers.
V2-CH-TPT3A	V2 “Chirper” wireless ambient temperature module and probe - Type 3 -50 to +30 degrees C with AA size Lithium battery. For use in refrigerators and standard (-30) freezers.
V2-CH-TPT3A-CRT	V2 “Chirper” wireless ambient temperature module and probe - Type 3 -50 to +30 degrees C with AA size Lithium battery. For use in refrigerators and standard (-30) freezers. Includes 3 Pt NIST certificate.
V2-CH-TPT3-CRT	V2 “Chirper” wireless temperature module and probe - Type 3 -50 to +30 degrees C with AA size Lithium battery. For use in refrigerators and standard -30 freezers. Includes 3 Pt NIST certificate.
V2-CH-TPT4	V2 “Chirper” wireless temperature module and probe - Type 4 -90 to +10 degrees C with AA size Lithium battery. For use in -80 ultra low freezers.
V2-CH-TPT4-CRT	V2 “Chirper” wireless temperature module and probe - Type 4 -90 to +10 degrees C with AA size Lithium battery. For use in -80 ultra low freezers. Includes 3 Pt NIST certificate.