

FX-WRZ Series Wireless Room Sensors

Description

The FX-WRZ Series Wireless Room Sensors are designed to sense room or zone temperature and transmit wireless temperature control data. Some models also sense and transmit relative humidity (RH).

Several models include an onboard passive infrared (PIR) occupancy sensor that detects motion to determine if a space is occupied. This feature maximizes up to 30% energy savings in high-energy usage environments such as schools, dormitories, offices, and hospitals by adjusting the temperature of the space based on the occupancy status. In addition, the PIR occupancy sensor facilitates trending of floor space usage in these environments.

In an FX-ZFR Series Wireless Field Bus System application, the sensors communicate wirelessly with FX-PC Series Controllers by means of the FX-ZFR1811 Router.

In a One-to-One wireless sensing system application, the sensors communicate wirelessly with an FX-WRZ7860 Wireless Receiver. The FX-WRZ7860 Receiver transfers data to the FX-PC Series Controller by means of the Sensor Actuator (SA) communication bus. In a typical application, one FX-WRZ Series Sensor reports to one FX-WRZ7860 Receiver, but up to five FX-WRZ Series Sensors can be associated with a single FX-WRZ7860 Receiver for multi-sensor averaging or high/low temperature selection.

Models are available with or without an LCD. Depending on the sensor model, the FX-WRZ Series Sensor can transmit sensed temperature, setpoint temperature, sensed humidity, occupancy status, and low battery conditions to an associated router or receiver. The FX-WRZ Series Sensors are designed for indoor, intra-building applications only.

The FX-WRZ Series Sensors use direct-sequence, spread-spectrum RF technology, and operate on the 2.4 GHz Industrial, Scientific, and Medical (ISM) band. The receiver meets the IEEE 802.15.4 standard for low power, low duty cycle RF transmitting systems.

Refer to the *FX-WRZ Series Wireless Room Sensors Product Bulletin (LIT-12011687)* for important product application information.

Features

- Wireless RF Design
- Integral Wireless Signal Strength Testing Built into the Sensor
- Easy Installation and Relocation
- Easily Applicable Data Types
- Simple, Field-Adjustable DIP Switches
- Wireless Signal Strength and Low Battery Condition Mapping
- Optional, Battery-Powered FX-WRZSST-120 Wireless System Survey Tool
- High Resistance to RF Interference from Other Radio Devices or RF Noise Sources



FX-WRZ Series Wireless Room Sensors

- Onboard PIR Occupancy Sensor Available on Some Models
- User-Selectable Default Display for Humidity Models
- Display Models
- Three Temperature Setpoint Range Options

Repair Information

If the FX-WRZ Wireless Room Sensor fails to operate within its specifications, replace the unit. For a replacement sensor, contact the nearest Johnson Controls® representative.

Selection Charts

Model Selection

Product Code Number	Product Description
FX-WRZMHN01-0	Wireless Room Temperature and Humidity Sensor with PIR Occupancy Sensor, Battery Level/Signal Strength LED, and Manual Occupancy Override Button
FX-WRZMNN01-0	Wireless Room Sensor (No Temperature or Humidity Sensing) with PIR Occupancy Sensor, Battery Level/Signal Strength LED, and Manual Occupancy Override Button
FX-WRZMTB01-0	Wireless Room Temperature Sensor with PIR Occupancy Sensor, Display, Setpoint Adjustment Scale: 55 to 80°F (13 to 27°C), F/C Button, and Manual Occupancy Override Button
FX-WRZMTN01-0	Wireless Room Temperature Sensor with PIR Occupancy Sensor, Battery Level/Signal Strength LED, and Manual Occupancy Override Button
FX-WRZTHB00-0	Wireless Room Temperature and Humidity Sensor with Display, Warmer/Cooler (+/-) Setpoint Adjustment or Setpoint Adjustment Scale: 55 to 85°F (13 to 27°C), F/C Button, RH Button, and Manual Occupancy Override Button
FX-WRZTHN00-0	Wireless Room Temperature and Humidity Sensor with Battery Level/Signal Strength LED and Manual Occupancy Override Button
FX-WRZTHP00-0	Wireless Room Temperature and Humidity Sensor with Warmer/Cooler (+/-) Setpoint Adjustment and Manual Occupancy Override Button
FX-WRZTTB00-0	Wireless Room Temperature Sensor with Display, F/C Button, and Manual Occupancy Override Button
FX-WRZTTD00-0	Wireless Room Temperature Sensor with Display, F/C Button, Fan Speed Control, and Manual Occupancy Override Button
FX-WRZTTP00-0	Wireless Room Temperature Sensor with Warmer/Cooler (+/-) Setpoint Adjustment, Battery Level/Signal Strength LED, and Manual Occupancy Override Button
FX-WRZTTR00-0	Wireless Room Temperature Sensor with Battery Level/Signal Strength LED, Manual Occupancy Override Button, and No Setpoint Adjustment
FX-WRZTTS00-0	Wireless Room Temperature Sensor with Setpoint Adjustment Scale: 55 to 80°F (13 to 27°C), Battery Level/Signal Strength LED, and Manual Occupancy Override Button
FX-WRZSST-120	Wireless Sensing System Tool: For Use with an FX-WRZ Series Sensor, to Function as a Site Survey Tool for the FX-WRZ7860 One-to-One Room Temperature Sensing System, or for the FX-ZFR1800 Series Wireless Field Bus System
T-4000-119	Allen-Head Adjustment Tool: 1/16 in. (1.6 mm), 30 Tools per Bag

FX-WRZ Series Wireless Room Sensors (Continued)

FX-WRZ Series Sensor Model Comparison


Sensor Model	Temperature	3% Humidity	Display	F/C Button	Fan Control	Occupancy Override Button	PIR Occupancy Sensor	Setpoint Adjustment Dial ¹
FX-WRZMHN01-0	x	x				x	x	NO DIAL
FX-WRZMNN01-0						x	x	NO DIAL
FX-WRZMTB01-0	x		x	x		x	x	CONFIG
FX-WRZMTN01-0	x					x	x	NO DIAL
FX-WRZTHB00-0	x	x	x	x		x		CONFIG
FX-WRZTHN00-0	x	x				x		NO DIAL
FX-WRZTHP00-0	x	x				x		W/C
FX-WRZTTB00-0	x		x	x		x		CONFIG
FX-WRZTTD00-0	x		x	x	x	x		CONFIG
FX-WRZTTP00-0	x					x		W/C
FX-WRZTTR00-0	x					x		NO DIAL
FX-WRZTTS00-0	x					x		SCALED

1. Warmer/cooler temperature offset (W/C), single-value in 55 to 85°F (13 to 29°C) range (SCALED), system-configured - available on display models only (CONFIG), no setpoint dial (NO DIAL)

Technical Specifications

FX-WRZ Series Wireless Room Sensors (Part 1 of 2)	
Power Requirements	3 VDC Supplied by Two 1.5 VDC AA Alkaline Batteries (Included with Sensor); Typical Battery Life: 48 Months (36 Months Minimum)
Addressing	DIP Switches; Field Adjustable MS/TP Address, Network Number, and Zone Address
Ambient Conditions	Operating: 32 to 122°F (0 to 50°C), 5 to 95% RH, Noncondensing Storage: -40 to 160°F (-40 to 71°C), 5 to 95% RH, Noncondensing
Wireless Band	Direct-Sequence, Spread-Spectrum, 2.4 GHz ISM Band
Transmission Power	10 mW Maximum
Transmission Range	100 ft (30 m) Maximum Line of Sight; 50 ft (15 m) Recommended
Transmissions	Temperature: Every 60 Seconds (±20 Seconds) Humidity: Every 3 Minutes, or 1 Minute Intervals if Temperature or Humidity Changes
Temperature System Accuracy (Temperature Only Models, and Temperature and Humidity Models)	1.0F°/0.6C° Over the Range of 55 to 85°F (13 to 29°C); 1.5F°/0.9C° Over a Range of 32 to 55°F (0 to 13°C) and 85 to 110°F (29 to 43°C)
Temperature Sensor Type (Temperature Only Models, and Temperature and Humidity Models)	Internal 10k ohm Negative Temperature Coefficient (NTC) Thermistor
Humidity Calibrated Range (Temperature and Humidity Models)	10% to 90% RH at 73°F (23°C)
Humidity Accuracy (Temperature and Humidity Models)	±3% RH across the Range of 20% to 80% RH, ±6% RH across the Range of 10% to 20% RH and 80% to 90% RH; within the Temperature Range of 55 to 85°F (13 to 29°C)
PIR Occupancy Sensor Motion Detection (Models with PIR Occupancy Sensor)	Minimum 94 Angular Degrees up to a Distance of 15 ft (4.6 m); Based on a Clear Line of Sight
Materials	NEMA 1 White Plastic Housing
Mounting	Screw Mount or Double-Sided Adhesive Foam Tape Mount; Double-Sided Adhesive Foam Tape Included

FX-WRZ Series Wireless Room Sensors (Continued)

FX-WRZ Series Wireless Room Sensors (Part 2 of 2)	
	<p>United States: Transmission Complies with FCC Part 15.247 Regulations for Low Power Unlicensed Transmitters Transmitter FCC Identification: TFB-MATRIXL or OEJ-WRZRADIO</p> <p>Canada: Industry Canada IC: 5969A-MATRIXL or 279A-WRZRADIO</p> <p>Europe: CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the R&TTE Directive 1999/05/EC.</p> <p>Japan: Transmission Complies with Article 38-24 Paragraph 1 of the Radio Law Certification Number: ATCB012834</p> <p>Australia and New Zealand: C-Tick Mark, Australia/NZ Emissions Compliant</p>
Shipping Weight	0.3 lb (0.14 kg)