



# ZFR1825 Wireless Field Bus Coordinator

## Installation Instructions

LC-ZFR1825-0

Part No. 24-10325-00142, Rev. –

Issued December 2017

Refer to the [QuickLIT website](#) for the most up-to-date version of this document.

### Application

**IMPORTANT:** Use the ZFR1825 Wireless Field Bus Coordinator only to provide an input to equipment under normal operating conditions. Where failure or malfunction of the ZFR1825 Coordinator could lead to personal injury or property damage to the controlled equipment or other property, additional precautions must be designed into the control system. Incorporate and maintain other devices, such as supervisory or alarm systems or safety or limit controls, intended to warn of or protect against failure or malfunction of the ZFR1825 Coordinator.

**IMPORTANT:** The ZFR1825 Series Wireless Field Bus System is not designed or intended for use in mission-critical or life/safety applications.

A ZFR1825 Wireless Field Bus Coordinator provides a wireless interface between field controllers equipped with a ZFR1821 or ZFR1822 Pro Series Router, wireless TEC3000 thermostats with internal ZFR Pro Series Router. Each wireless mesh network requires one ZFR1825 Coordinator, which initiates the formation of the network.

A ZFR1825 Coordinator can operate from either of two power sources:

- a 24 VAC, Class 2 power source when used with an NAE55 supervisory controller
- 15 VDC power provided from the FC Bus Jack on most Field Equipment or Supervisory Controllers that are connected directly to the FC Bus

The ZFR1825 Coordinator features a remote-mount antenna and cable to allow transmission when the ZFR1825 Coordinator is mounted inside a metal panel.

Refer to the *Verasys Wireless Pro System Technical Bulletin (LIT-12012940)* for information on commissioning and configuring a ZFR1825 Series Wireless Field Bus System for operation.

## North American Emissions Compliance

### United States

#### Compliance Statement (Part 15.19)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

#### Warning (Part 15.21)

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### Canada

#### Industry Canada Statement(s)

The term **IC** before the certification/registration number only signifies that the Industry Canada technical specifications were met.

This device has been designed to operate with an antenna having a maximum gain of 2 dB. Antenna having a higher gain is strictly prohibited per regulations of Industry Canada. The required antenna impedance is 50 ohms.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the Equivalent Isotropically Radiated Power (EIRP) is not more than that required for successful communication.

Le terme « IC » précédant le numéro d'accréditation/inscription signifie simplement que le produit est conforme aux spécifications techniques d'Industry Canada.

Cet appareil a été conçu pour fonctionner avec une antenne d'un gain maximum de 2 dBi. En application des réglementations d'Industry Canada, l'utilisation d'une antenne de gain supérieur est strictement interdite. L'impédance d'antenne requise est de 50 ohms.

Pour réduire les interférences radio potentielles avec les dispositifs d'autres utilisateurs, le type d'antenne et son gain doivent être choisis de façon à ce que la Puissance Isotrope Rayonnée Équivalente (PIRE) ne soit pas supérieure à la puissance nécessaire pour une bonne communication.

## Installation

**IMPORTANT:** Before installing the ZFR1825 Coordinator in plenum applications, verify acceptance of exposed plastic materials in plenum areas with the local building authority. Building codes for plenum requirements vary by location.

Some local building authorities accept compliance to UL 1995, Heating and Cooling Equipment, while others use different acceptance criteria.

Follow these guidelines when installing a ZFR1825 Coordinator.

- Transport the ZFR1825 Coordinator in the original container to minimize vibration and shock damage.
- Verify that all the parts shown in *Parts Included* shipped with the ZFR1825 Coordinator.
- Do not drop the ZFR1825 Coordinator or subject it to physical shock.

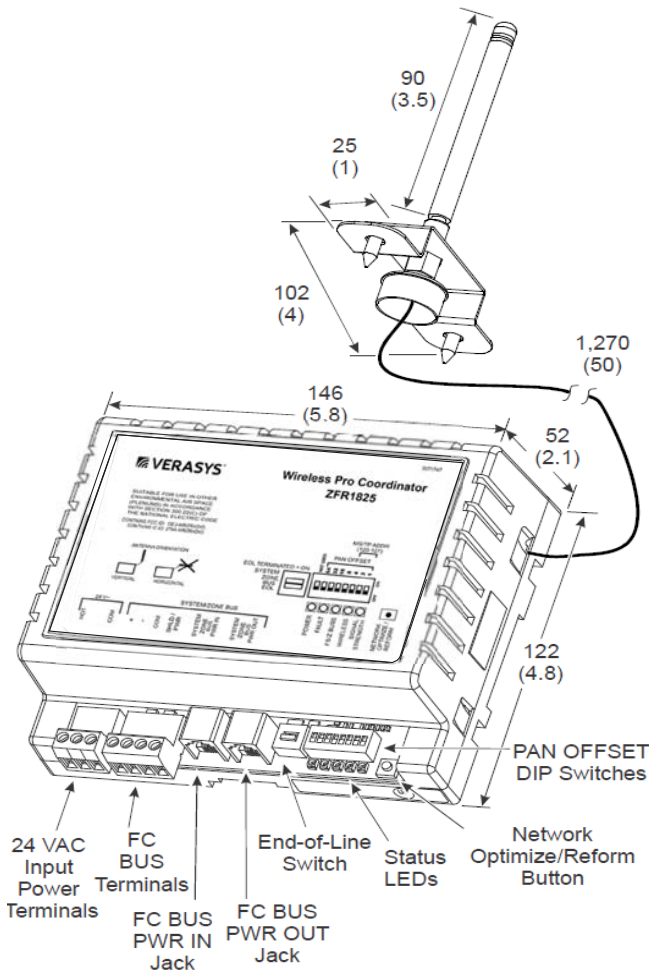
#### Parts Included

Verify that the following parts shipped with the ZFR1825 Coordinator:

- one ZFR1825 Coordinator and:
  - one three-position screw terminal pluggable block for 24 V~ power
  - one four-position screw terminal pluggable block for FC/SA Bus In
  - four No. 6 pan-head, sheet-metal screws
- adjustable antenna with 1.2 m (4 ft) cable and:
  - galvanized steel mounting bracket
  - two No. 6 Trade Size pan-head, sheet-metal screws
  - round bushing
  - hexagonal bushing
- one installation instructions sheet

## Dimensions

See Figure 1 for physical features and dimensions of the ZFR1825 Coordinator.



**Figure 1: ZFR1825 Coordinator Physical Features and Dimensions, mm (in.)**

## Mounting

### Location Considerations

Follow these guidelines when locating a ZFR1825 Coordinator within a ZFR Pro Series system.

- Locate the ZFR1825 Coordinator so that it is easily accessible.
- For best signal transmission, vertically orient the ZFR1825 Coordinator's antenna with at least 50 mm (2 in.) exposed below (and clear of) any pipes, duct work, or other metal obstructions. Do not mount the antenna in a horizontal orientation.

- Due to the nature of the radio frequency waves, a wireless device may have significantly different signal strengths if its position changes relative to another wireless device or if its environment changes. If a ZFR1825 Coordinator shows poor signal strength, you can improve the signal strength by moving the device's antenna a couple of inches in either horizontal direction.
- Locate the ZFR1825 Coordinator's antenna in line-of-sight with as many ZFR Pro Routers as possible.
- Do not mount the ZFR1825 Coordinator's antenna in recessed areas, metal enclosures, or shelving units.

Follow these additional guidelines when installing a ZFR1825 Coordinator:

- Locate the ZFR1825 Coordinator near the center of the associated array of ZFR Pro Routers.
- At a minimum, position a ZFR1825 Coordinator within 15.2 m (50 ft) of at least two ZFR Pro Routers.
- At a minimum, position all ZFR1811 Routers within 15.2 m (50 ft) of at least two other ZFR Pro Routers or one ZFR Pro Router and the ZFR1825 Coordinator.
- Locate the ZFR1825 Coordinator on the same floor as the associated ZFR Pro Router and WRZ Series Sensors.
- Test the transmission signal strength between the ZFR1825 Coordinator and the associated ZFR Pro Routers to ensure a reliable mesh network is in place. For more information, see the *Verasys Wireless Pro System Technical Bulletin (LIT-12012940)*
- Avoid metal obstructions and concrete or brick walls between the ZFR1825 Coordinator and the associated ZFR Pro Router and WRZ Series Sensors.
- Avoid configurations where a microwave oven is located between two wireless devices. At a minimum, ensure no microwave ovens are within 6 m (20 ft) of a ZFR1825 Coordinator.

**Note:** For detailed information on location guidelines for a ZFR Pro Series system, and for estimating the number of ZFR Pro Routers needed as repeaters for extending wireless transmission range, refer to the *Verasys Wireless Pro System Technical Bulletin (LIT-12012940)*

## Wireless Signal Transmission Considerations

Line-of-sight transmission ranges between a ZFR1825 Coordinator, ZFR Pro Router, and/or a WRZ Series Sensor can be less than the maximum distances shown in Table 1. The effective transmission range for indoor applications varies because of wireless signal absorption and reflection due to metal obstructions, walls (or floors), and furniture found in typical building interiors. The effective transmission range for outdoor applications varies based on environmental conditions.

**Table 1: Indoor Line-of-Sight Transmission Ranges**

Range Type	Transmission Distance	
	ZFR1825 Coordinator, ZFR1821 or ZFR Router, TEC30xx	ZFR1825
Recommended	15.2 m (50 ft)	15.2 m (50 ft)
Maximum	76.2 m (250 ft)	30 m (100 ft)

### Mounting the Base

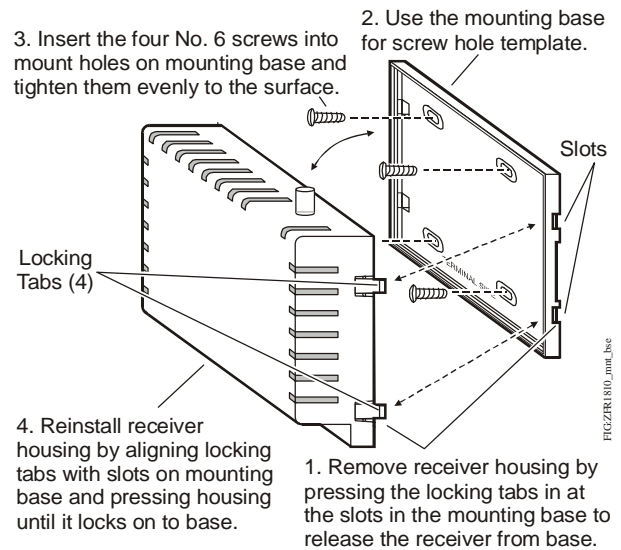
The ZFR1825 Coordinator can be surface mounted using the four No. 6 Trade Size self-tapping, pan-head screws supplied.

To mount the ZFR1825 Coordinator base with screws:

1. Remove the ZFR1825 Coordinator from the mounting base (Figure 2).
2. Use the mounting base as a template, and place the mounting base against the mounting surface.
3. Drill pilot holes at the marked locations and secure the mounting base to the surface with the four No. 6 Trade Size screws supplied.

**IMPORTANT:** Do not overtighten the mounting screws. Overtightening the mounting screws may damage the mounting base or mounting surface.

4. Mount the antenna and connect the antenna cable to the ZFR1825 Coordinator. See [Assembling the Antenna](#).
5. Reinstall the ZFR1825 Coordinator housing to the mounted base.



**Figure 2: Mounting the ZFR1825 Coordinator**

### Assembling the Antenna

**IMPORTANT:** Use the antenna provided. Do not alter the antenna in any way or use another antenna. Do not modify the antenna cable in any way.

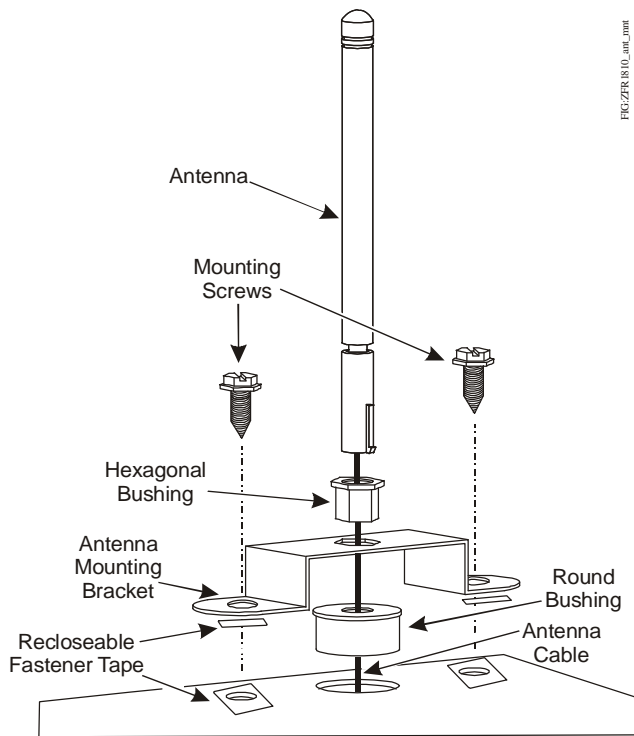
**IMPORTANT:** Minimum bend radius for the antenna cable is 25 mm (1 in.). Any bend with a smaller radius may damage the cable.

If mounting the ZFR1825 Coordinator in a control panel, choose a location on the top side of the control panel for placement of the antenna. Ensure that the selected location has line-of-sight to two or more ZFR Pro Routers.

Use Figure 3 and the following steps to assemble the remote-mount antenna:

1. Remove the knock-out tab on the enclosure/panel box or drill a 7/8 in. diameter hole in the desired location on the top of the enclosure.
2. Insert the round bushing into the hole in the enclosure.
3. Insert the hexagonal bushing into the antenna mounting bracket.
4. Thread the antenna cable through the hexagonal bushing.
5. Insert the base of the antenna into the hexagonal bushing and press until it snaps securely in place.
6. Thread the antenna cable through the round bushing at the top of the panel.

FIG ZFR1810\_001.dwg



**Figure 3: Mounting the Antenna**

**Mounting the Antenna Using Screws**

To mount the antenna using screws:

1. Center the antenna mounting bracket over the 7/8 in. (22 mm) round bushing.
2. Using the bracket as a template, drill two 3/32 in. (2 mm) pilot holes into the enclosure.
3. Screw the bracket into place using the supplied self-tapping mounting screws.

**Mounting the Antenna Using Recloseable Fastener Tape (RFT)**

When the unit is part of a panel assembly, the package includes six pieces of RFT. Use this tape between the antenna bracket and the enclosure. To mount the antenna using RFT:

1. Ensure all mounting surfaces are clean and free of dust, oils, and debris before applying the RFT.

2. Remove the adhesive backing on two pieces of RFT and place one piece on the bottom of each antenna bracket mounting foot.
3. Affix a mating piece of RFT onto each piece of RFT on the mounting bracket so that the fasteners mesh together. Remove the adhesive backing on the mating pieces.
4. Center the bracket over the 7/8 in. (22 mm) round bushing and apply the bracket to the top of the panel. Push down on the feet of the bracket until you feel the fasteners lock into position and the adhesive bonding to the panel is completely attached.

**Note:** Extra pieces of RFT are provided so that you can change the mounting location on the top of the panel at a later date if necessary.

**Attaching the Antenna to the ZFR1825 Wireless Field Bus Coordinator**

To attach the antenna to the ZFR1825 Coordinator:

1. Remove the top cover of the ZFR1825 Coordinator by simultaneously pushing in both flexible tabs on one side of the unit, followed by pushing in the tabs on the other side of the unit.
2. Remove the top portion of the unit.
3. Apply the antenna wire firmly to the connection point (see Figure 1) until it locks into place.

**IMPORTANT:** The connection from the antenna cable to the ZFR1825 Coordinator is intended to be made only once. Do not remove it once you have inserted it into the jack. If you must remove the antenna, only pull on the knurled end of the antenna's connector. Pulling on the antenna cable from anywhere else can result in damage to the antenna. Avoid any repeat removals and re-insertions as this may impact wireless connection integrity and unit performance.

4. Replace the top portion and cover of the ZFR1825 Coordinator.

## Wiring

### Wiring Considerations and Guidelines

**IMPORTANT:** Do not connect supply power to the ZFR1825 Coordinator before finishing wiring and checking all wiring connections. Short circuits or improperly connected wires may result in permanent damage to the ZFR1825 Coordinator.

**IMPORTANT:** Use copper conductors only. Make all wiring in accordance with local, national, and regional regulations. The ZFR1825 Coordinator is a low-voltage (less than 30 VAC) device. Do not exceed the ZFR1825 Coordinator's electrical ratings.

**IMPORTANT:** Prevent any static electric discharge to the ZFR1825 Coordinator. Static electric discharge can damage the ZFR1825 Coordinator and void any warranties.

**IMPORTANT:** Do not connect the ZFR1825 Coordinator to the power supply before setting the PAN OFFSET switches.

Follow these guidelines when wiring a ZFR1825 Coordinator:

- Route the wires at least 50 mm (2 in.) away from the vent slots on the sides of the ZFR1825 Coordinator housing.
- Provide slack in the wires. Keep wires routed neatly around the ZFR1825 Coordinator to promote good ventilation, Light-Emitting Diode (LED) visibility, and ease of service.

### Power Input and Communication

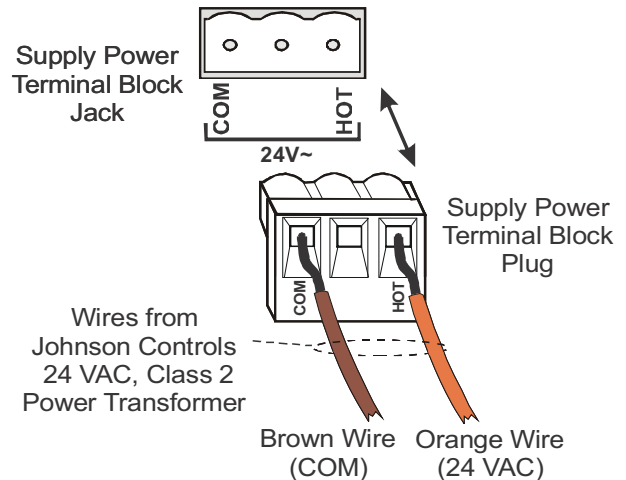
Wiring for power input and communication uses one of two methods: terminal blocks or the FC Bus jack.

#### Terminal Blocks - Power

Use a 24 VAC nominal, 50/60 Hz, Class 2 power supply to power the ZFR1825 Coordinator. See Table 4 for recommended Johnson Controls® transformers.

Connect the 24 VAC supply power wires from the transformer to the HOT and COM terminals of the 24 V~ three-position screw terminal pluggable block as shown in Figure 4 and Figure 1. The middle terminal is not used.

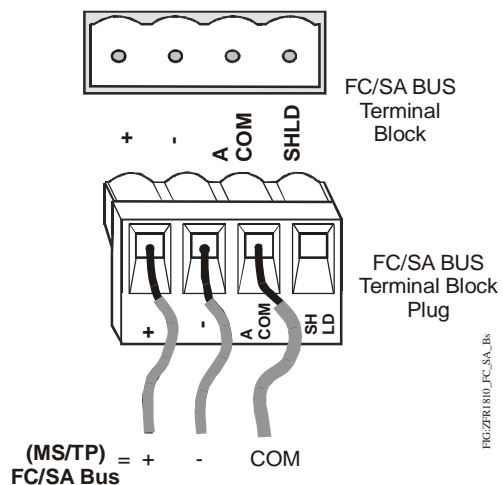
**Note:** Transformers not manufactured by Johnson Controls may have different color wires. Follow the manufacturer's instructions when mounting and wiring transformers.



**Figure 4: ZFR1825 Coordinator 24 VAC Power Supply Connection**

#### Terminal Blocks - Communication

Connect the communication wires from the NAE or NCE to the four-position screw terminal pluggable block, as shown in Figure 5 and Figure 1.



**Figure 5: ZFR1825 Coordinator Communication Connection**

#### FC Bus Jack - Power and Communication

As an alternate to hard-wiring the Power and Communication pluggable blocks, use a six conductor SA Bus RS-485 cable with RJ12 connectors to connect the ZFR1825 Coordinator to the FC Bus connector (FC/SA BUS IN) on the NAE or NCE supervisory engine. This connection provides both power and communication to the ZFR1825 Coordinator.

## Power Supply Output

**IMPORTANT:** Do not exceed the power supply output of the ZFR1825 Coordinator. The ZFR1825 Coordinator's power supply input must be able to source the ZFR1825 Coordinator and the connected external devices. Exceeding the power supply output limits may cause the ZFR1825 Coordinator to shut down.

Use a six-conductor SA Bus RS-485 cable with RJ45 connectors to connect an external Metasys® device (through BTCVT) to the FC BUS OUT jack as shown in Figure 1.

## Setup and Adjustments

### PAN Offset

**IMPORTANT:** Ensure that the PAN Offset switches are set to the same value for the ZFR1825 Coordinator and each associated ZFR Pro Router, TEC3000, and WRZ Series Sensor in a mesh network.

**IMPORTANT:** To avoid wireless mesh network conflicts, **do not** connect the ZFR1825 Coordinator to the power supply before setting the PAN Offset switches.

Set the PAN Offset value of the ZFR1825 Coordinator using the Dual Inline Package (DIP) switches to configure the ZFR1825 Coordinator to communicate with the ZFR Pro Routers and TEC3000 thermostats assigned to it. See Figure 1 and Figure 6.

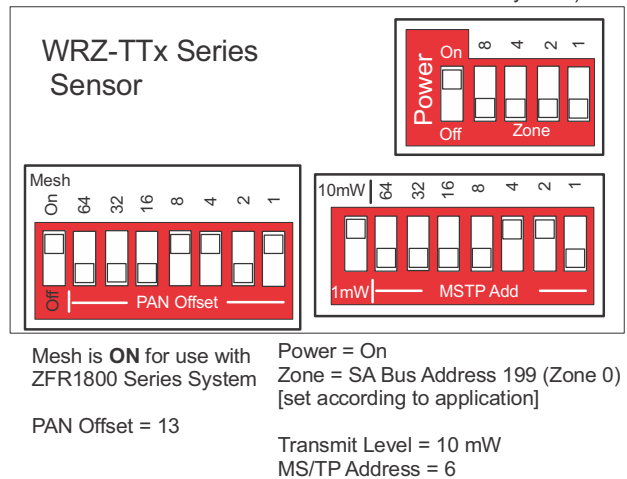
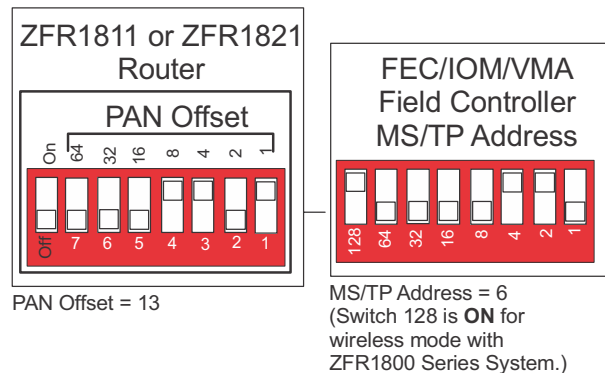
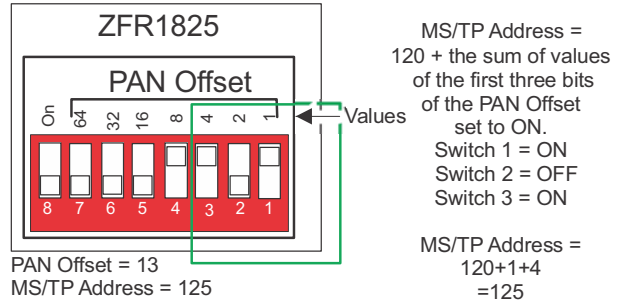
The PAN Offset value equals the sum of the numbers set to ON. For example, if the DIP switches labeled 1, 4, and 8 are set to ON, the PAN Offset value is 13 (1 + 4 + 8 = 13).

When selecting a PAN Offset value for a wireless system:

- Use a unique PAN Offset value for each wireless mesh network at a job site.
- Use the same PAN Offset value for each wireless device in a wireless mesh network - the ZFR1825 Coordinator and each associated ZFR Pro Router, TEC3000, and WRZ Series Sensor.

### PAN Offset and MS/TP Address Interaction

At Release 4.1 and later, the MS/TP address of the ZFR1825 Coordinator is no longer fixed at 2. The new address is **120 plus the sum of the first three values** of the PAN Offset that are set to the ON position, giving an MS/TP address range of 120 to 127.



**Figure 6: Setting the DIP Switches**

**Note:** Only PAN offset switch positions 1, 2, and 4 set to the ON position count towards the MS/TP address of the ZFR1825 Coordinator. See the top of Figure 6.

In Figure 6, the PAN Offset of the ZFR1825 Coordinator is configured by adding the values associated with the first seven switch positions (right to left). The eighth switch position is not used and should be set to OFF. In Figure 6 the PAN Offset is configured to 13 (values 1, 4, and 8) to the ON position. In Figure 6, the MS/TP address of the ZFR1825 Coordinator is configured by adding the values associated with the first three switch positions (right to left). The sum of the values is 5, so the MS/TP address of the ZFR1825 Coordinator is 120 + 5, which equals 125.

Up to 8 ZFR1825s can be connected to the same FC Bus. When using multiple ZFR1825s, choose sequential PAN Offset values to avoid MS/TP Address conflicts.

**Setting the FC Bus End-of-Line (EOL) Switch**

The FC Bus End-of-Line termination switch allows you to designate the ZFR1825 Coordinator as the end of the FC Bus. The default position is OFF. If the ZFR1825 Coordinator is at the end of a daisy chain of devices on the FC Bus, set the EOL switch to the ON position. See Figure 1 and Figure 7.

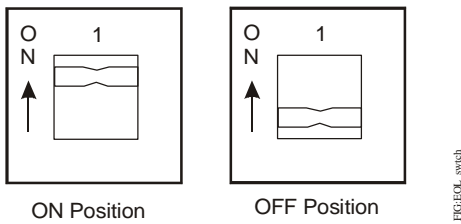


Figure 7: EOL Switch

**Troubleshooting**

**Wireless Signal Strength**

A wireless signal strength indication LED displays the reception strength of the transmissions between the ZFR1825 Coordinators, ZFR Pro Routers, Repeaters, and the TEC3000 Thermostats. This LED helps determine the network connectivity status when selecting locations for the devices during system installation.

Approximately once every 10 seconds, the Signal Strength LED flashes to indicate the reception strength of the signal from neighboring devices. See Table 3 and Figure 1.

Refer to the *Verasys Wireless Pro System Technical Bulletin (LIT-12012940)* for more information on determining the signal strength between ZFR Pro Series devices in your application.

**WRZ-SST-120 Wireless Sensing System Tool**

Use the WRZ-SST-120 Wireless Sensing System Tool with a WRZ Series Sensor as a site survey tool to determine the wireless signal strength between a ZFR1825 Coordinator and a ZFR Pro devices in the wireless mesh network.

**Network Optimize/Reform Button**

The Network Optimize/Reform Button allows the ZFR1825 Coordinator to use any of three functions:

- Signal Strength
- Network Optimize
- Network Reform

Use the Signal Strength mode to aid in signal strength testing. Signal Strength mode causes the LEDs on the ZFR Pro routers to turn on and display signal strength for two hours.

Use the Network Optimize mode to clear the mesh device routing tables of the ZFR Pro Routers and attempt to find shorter and/or stronger signal paths to the ZFR1825 Coordinator.

**Note:** The Network Optimize process can take up to 15 minutes to complete.

Use the Network Reform if new ZFR Pro or WRZ devices are failing to join the ZFR Pro Mesh network. Refer to the *Verasys Wireless Pro System Technical Bulletin (LIT-12012940)* for more information about the Network Reform function.

Table 2: Network Optimize/Reform Button

Holding the Network Optimize/Reform Button for ____	Puts the ZFR1825 Coordinator into the ____ Mode
0–5 Seconds	Signal Strength
5–10 <sup>1</sup>	Network Optimize
More than 10 <sup>2</sup>	Network Reform

1. Once the Signal Strength LED begins blinking rapidly, release the button (between 5 to 10 seconds).
2. Once the Signal Strength LED stops blinking rapidly and stays ON, release the button (approximately 10 seconds).



## Troubleshooting LEDs

The ZFR1825 Coordinator has five LEDs that indicate power, fault status, FC Bus activity, wireless activity, and signal strength. See Figure 1. These status LEDs are described in Table 3.

**Table 3: ZFR1825 Coordinator Status LEDs**

Name	Color	Normal	Descriptions
<b>Power</b>	Green	On	<b>Off Steady</b> = No power. <b>On Steady</b> = Normal operation (power available from 24 VAC connector or Field Controller Sensor Actuator [FC/SA] Bus IN jack).
<b>Fault</b>	Red	Off	<b>Off Steady</b> = Normal. <b>On Steady</b> = Internal Errors detected.
<b>FC Bus</b>	Green	Blink	<b>Blink - 2 Hz</b> = Normal operation (ZFR1825 Coordinator is receiving BACnet® frames over the wire). <b>Off Steady</b> = Attempting to Auto Baud, or not connected to active MS/TP network. <b>On Steady</b> = Auto Baud complete and not receiving BACnet frames.
<b>Wireless</b>	Green	Blink	<b>Blink - 2 Hz</b> = Normal operation (ZFR1825 Coordinator is receiving BACnet frames over the wire). <b>Off Steady</b> = Not receiving BACnet frames. <b>On Steady</b> = Stopped receiving BACnet frames.
<b>Signal Strength</b>	Green	<b>Signal Strength<sup>1</sup> Indication:</b> <b>3 Flashes</b> - Excellent <b>2 Flashes</b> - Good <b>1 Flash</b> - Weak <b>OFF for 3 seconds</b> - None	<b>OFF Steady</b> = Not able to start a network. <b>ON Steady with Signal Strength displayed once every 10 seconds</b> = Normal operation (ZFR1825 Coordinator is a member of a wireless network). <b>5 Rapid Flashes</b> = Network has been started, but no other ZRF Pro devices are seen.

1. Signal Strength appears once every 10 seconds or when the Network Optimize/Reform button on the ZFR1825 Coordinator is depressed momentarily (less than 5 seconds).

## Repair Information

If the ZFR1825 Wireless Field Bus Coordinator fails to operate within its specifications, replace the unit. For a replacement ZFR1825 Coordinator, contact the nearest Johnson Controls representative.

## Accessories

**Table 4: Accessories (Order Separately)**

Product Code Number	Product Description
TP-2420	Transformer, Wall Plug Mount, 120 VAC to 24 VAC, 20 VA, Class 2
WRZ-SST-120	Wireless Sensing System Tool. Requires WRZ Series Sensor to function as a site survey tool for ZFR1800 Wireless Field Bus System, or for WRZ-7860-0 One-to-One Room Sensing System.
Y65T31-0 <sup>1</sup>	Transformer, 120/208/240 VAC to 24 VAC, 40 VA, Class 2, Foot Mount, 20 cm (8 in.) Primary Leads and Secondary Screw Terminals
ZFR-USBHA-0	USB Dongle with ZFR Driver provides a wireless connection through the CCT to allow wireless commissioning of the wireless enabled FAC, FEC, IOM, and VMA16 controllers. The USB ZFR Dongle is also used with the ZFR Checkout Tool used to troubleshoot and validate ZFR wireless meshes using a laptop computer.
ZFR-1810ANT-700	Replacement antenna kit for ZFR1825 Wireless Field Bus Coordinator. Includes antenna, coaxial cable, and mounting hardware.

1. Additional Y60 Series Transformers are available from Johnson Controls.

## Technical Specifications

### *ZFR1825 Wireless Field Bus Coordinator (Part 1 of 2 )*

Product Code Number	MS-ZFR1825-x
Power Supply Input	<p><b>One of the following:</b></p> <ul style="list-style-type: none"> <li>24 VAC +10%/-15%, 50/60 Hz, Class 2. Transformer allowance should be 2.5 VA maximum, 2 VA typical. Provided through the three-position 24 V~ screw terminal pluggable block.</li> <li>15 VDC, 180 mA (7 to 18 VDC, 185 mA maximum current draw) on the FC Bus provided through the FC/SA BUS IN RJ-12 jack from the FC Bus Jack on a Field Controller or NxE supervisory engine.</li> </ul>
Power Supply Output	15 VDC; Provided through the FC/SA BUS, FC/SA BUS OUT RJ-12 jack for external devices.
Addressing	DIP Switches, Field Adjustable
Wireless Band	Direct-Sequence Spread-Spectrum, 2.4 GHz ISM Bands
Transmission Power	10 mW Maximum
Transmission Range	76.2 m (250 ft) Maximum Line-of-Sight 15 m (50 ft) Recommended
Ambient Conditions	<p><b>Operating:</b> 0 to 50°C (32 to 122°F), 5 to 95% RH, Noncondensing</p> <p><b>Storage:</b> -20 to 70°C (-4 to 158°F), 5 to 90% RH, Noncondensing</p>
Materials	Product complies with Plenum Rating per UL2043. Suitable for use in other environmental air space (Plenums) in accordance with section 300.22 © of the National Electric Code.
Terminations	<p>Two spade terminals with three-position screw terminal pluggable block for 24 VAC power supply input.</p> <p>Four spade terminals with four-position screw terminal pluggable block for RS-485 communications.</p> <p>RJ-12 IN jack for 15 VDC power supply and communications connection from an NxE or FEC FC Bus jack.</p> <p>RJ-12 OUT jack supplies 15 VDC and communications to BTCVT Wireless Commissioning Converter.</p>
Dimensions	146 x 122 x 52 mm (5.8 x 4.8 x 2.1 in.)

## ZFR1825 Wireless Field Bus Coordinator (Part 2 of 2 )

<b>Mounting Hardware</b>	Four No. 6 Trade Size Sheet Metal Screws
<b>Shipping Weights</b>	0.45 kg (1.0 lb)
<b>Compliance</b>	<p><b>United States:</b>            Intended for Connection to an NEC Class 2 Power Source;            UL 916 Energy Management            Plenum rating per UL 2043            FCC Compliant to CFR47, Part 15, Subpart B, Class A            Transmission Complies with FCC Part 15.247 Regulations for Low Power Unlicensed Transmitters</p> <p>Transmitter Identification ZFR1825-0: FCC: TFB-MATRIXL</p> <p>Transmitter Identification ZFR1825-1: FCC: OEJ-WRZRADIO</p> <p><b>Canada:</b>            CAN/CSA C22.2 No. 205, Signal Equipment            Industry Canada (IC) Compliant to Canadian ICES-003, Class B Limits</p> <p><b>Industry Canada (IC) RSS-210</b>            Transmitter Identification ZFR1825-0: 5969A-MATRIXLP            Transmitter Identification ZFR1825-1: 279A-WRZRADIO</p> <p><b>Australia and New Zealand:</b> RCM Mark, Australia/NZ Emissions Compliant</p> <p><b>Europe:</b>            CE Mark – Johnson Controls, Inc., declares that this product is in compliance with the essential requirements and other relevant provisions of the EMC Directive.</p>



*The performance specifications are nominal and conform to acceptable industry standard. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls, Inc. shall not be liable for damages resulting from misapplication or misuse of its products.*

**European Single Point of Contact:**

JOHNSON CONTROLS  
 WESTENDHOF 3  
 45143 ESSEN  
 GERMANY

**NA/SA Single Point of Contact:**

JOHNSON CONTROLS  
 507 E MICHIGAN ST  
 MILWAUKEE WI 53202  
 USA

**APAC Single Point of Contact:**

JOHNSON CONTROLS  
 C/O CONTROLS PRODUCT MANAGEMENT  
 NO. 22 BLOCK D NEW DISTRICT  
 WUXI JIANGSU PROVINCE 214142  
 CHINA



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