



## RANGER Wireless Radio Transmitters User Guide

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### RANGER Wireless Radio Transmitters



This Quick Start Guide is intended for experienced installation technicians. It is a basic reference to ensure all installations are properly made

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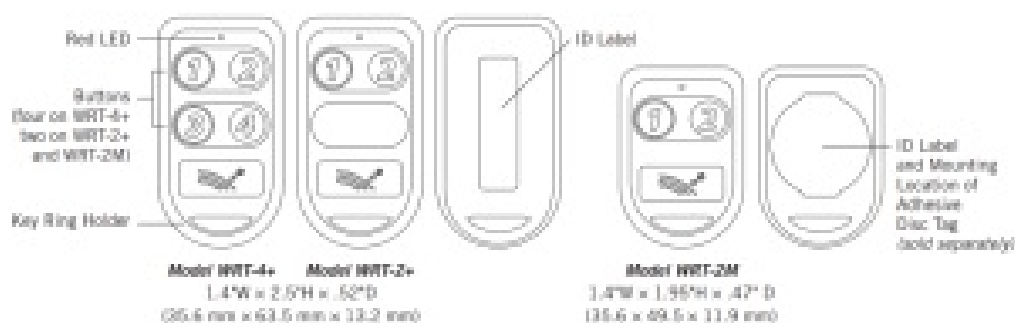
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## Description

Wireless Radio Transmitters and Long Range Receivers with an integrated receive antenna comprise Farpointe Data's high frequency, long-range identification solution known as Ranger. Intended for security access control applications, Ranger's wireless communication is based upon a secure, digital, anti-playback routine. Ranger Transmitters are available in two- or four-button configurations, with each button corresponding to its own Wiegand output on the Ranger Receiver. Each Transmitter includes an integrated red LED, used to indicate both positive button press and battery strength.

The WRT-2+ and WRT-4+ Transmitters are also equipped standard with a potted proximity or contactless smartcard module allowing the Transmitter to also be used as a close-range access credential. These Transmitters ship standard with a proximity module offering technology support of certain Pyramid Series Proximity®, HID® or AWID® standard 125-kHz proximity readers, or with a contactless smartcard module (such as MIFARE® Classic 1K or 4K, as well as DESFire EV1 or EV2) offering technology support of certain Delta® Contactless Smartcard Readers. The WRT-2M Transmitter does not include a proximity or contactless smartcard module. Instead it can be fitted with an adhesive disc tag, such as Farpointe's model PDT-1—that adheres to the back of the Transmitter—which also allows it to be used as a close-range access credential. Disc tags, which are sold separately, are available in the same proximity or contactless smartcard formats as noted above.

## Transmitter Layouts



## Output Formats

Transmitters are sequentially coded in either the industry standard 26-bit Wiegand format or custom Wiegand formats, with exact number sequences. As a cross reference the Transmitters' internal ID number is printed on the ID label found on the back of the Transmitter. Specific coding details, including format, facility code, and ID range can be found on the Transmitter shipping box, as well as the shipment's packing list.

## Time-Out

Ranger transmitters make use of a time-out feature to preserve battery life and prevent interference with other

transmitters on the field. When a button is held down continuously the transmitter will transmit the code once and shutdown and will power up once the button is released.

## Battery Replacement

Transmitters include a replaceable CR2032, 3.3V, lithium battery<sup>1</sup>.

The battery should be replaced when a button press does not result in a flash of the LED, reliable read range, and/or an output from the Receiver. To replace the battery, follow the directions below:

1. Using a coin, place it in the gap (2-piece unit) near the key ring holder and twist to pop the transmitter open.
2. Remove the old battery<sup>2</sup>.
3. Insert the new CR2032, 3.3V, lithium battery. Be sure the plus (+) side of the battery is facing up (visible when installed).
4. Snap both pieces together.

## Range<sup>3</sup>

Read range between the Transmitter and Receiver depends on the Receiver model being used. Please review the Ranger Receiver datasheet for more information.

## Troubleshooting

Issue/Possible Cause	Corrective Action
No data received/Transmitter not enrolled	Transmitter must be clicked twice to be learned by the Receiver upon initial Receiver power up
Short read range/Receiver potentiometer	Adjustable potentiometer should be set to the maximum setting (certain models only)
Some buttons not working/ Receiver capability	Receiver Model WRR-22 only works with buttons 1 and 2
Prox insert not working/ Compatibility	Support with HID® and AWID® 125-kHz Proximity Protocol readers must be requested on PO. With WRT-2M, does not include a proximity or contactless smartcard module. Adhesive disk tags are sold separately.
Red LED does not flash upon button press	Check that battery is installed correctly and is not dead (fully discharged)

Should any of the corrective actions mentioned above not improve performance, please contact Farpointe directly.

## NOTES

1. This lithium battery is widely available, and commonly used in electronic devices, including cameras and remote controls.
2. Dispose of the battery according to local requirements. Recycle when possible.
3. For best performance the Transmitter should be used as far from interference sources as possible. These sources may include, but are not limited to, large metal obstructions, such as duct work and appliances, as well as magnetic fields and radio emissions.

**Operating Temperature:** –40° F to 149° F (–40° C to +65° C)  
**Operating Humidity:** 5% to 95% relative humidity non-condensing

**IP Rating:** IP67-rated for outdoor use

**Access Control Performance Levels Conforming to UL STD 294:**

Destructive Attack	Line Security	Endurance	Standby Power
Level I	Level I	Level I	Level I

**Grade Classification Certified to CAN/ULC STD 60839-11-1:**

Risk Level	Application	Skill/Knowledge of Attackers	Typical Examples
Grade 1	Grade 1	Grade 1	Grade 1

Many Farpointe Data Readers carry the following certifications:



**FCC Compliance Statement:** 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.

**Caution:** Changes or modifications not expressly approved by Farpointe Data could void the user's authority to operate the equipment.

Product can be used without license conditions or restrictions in all European Union countries, including Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Spain, Sweden, United Kingdom, as well as other non-EU countries, including Iceland, Norway, and Switzerland.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause unde-sired operation of the device.

**Note:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause

*harmful interference in which case the user will be required to correct the interference at his own expense.*

Farpointe Data reserves the right to change specifications without notice.



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## Documents / Resources

	<p><b><a href="#">RANGER Wireless Radio Transmitters</a></b> [pdf] User Guide RANGER, 433-MHz, LONG-RANGE, WRT-2, WRT-4, WRT-2M, WIRELESS, RADIO TRANSMITTERS</p>
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