

VIKING PRODUCT MANUAL

COMMUNICATION & SECURITY SOLUTIONS

Long Range 433 MHz Four Channel Transmitters and Receivers with up to 400 ft* Range

Viking's model **LRR-4** Long Range 4 Channel Receivers with integrated receive antenna and **LRT-4** Long Range Wireless 4 Channel Radio Transmitters comprise Vikings high frequency, long-range (RFID) identification solution. Intended for security access control applications, the **LRT-4**'s wireless communication is based upon a secure, digital, anti-playback routine. The **LRT-4** Transmitters have four buttons, each corresponding to its own Wiegand output on the **LRR-4** Receiver. Each Transmitter includes an integrated red LED, used to indicate both positive button press and battery strength. They are also equipped standard with a 125 KHz HID** compatible potted proximity module allowing the Transmitter to also be used as a close range access credential.

The transmitters and receivers operate at 433 MHz allowing a transmission range of up to 400 ft (line of sight). The **LRR-4** receiver has an adjustable read range, optional external antenna connector, terminal block with 4 channel Wiegand data output and a transducer and LED to confirm transmitter button press. The **LRR-4** has a conformal coated circuit board mounted in a NEMA 4, 4x rated box for use in outdoor applications.



ATTENTION: When ordering **LRT-4** Transmitters, quantity, Facility Code, starting Transmitter, and Proximity Module Number must be specified. Please use the attached order form on page 4.

Features

LRT-4 Long Range Transmitter

- Read range of up to 400 ft (line of sight)
- Convenient key fob design
- 4 buttons to activate up to 4 different Wiegand devices
- Secure, Rolling Code + Encryption, digital, anti-playback wireless transmission
- Integrated 125 KHz proximity module for close range access credential (can be used with Viking Proximity card readers and certain 125 KHz HID** readers)
- Replaceable CR2032 battery lasts up to 500,000 button presses
- Robust buttons rated for up to 1 million activations
- LED to indicate button press and battery strength
- Internal diaphragm / gasket seals circuit board from moisture and debris
- CE mark

LRR-4 Long Range Receiver

- Read range of up to 400 ft (line of sight)
- Secure, digital, anti-playback wireless communications
- 4 channels of 26 bit Wiegand data output
- Optional external antenna connector
- LED and transducer transmitter feedback
- Adjustable read range
- Removable terminal block for easy wiring
- Cable grommet included for sealing cable exit
- CE mark

*Up to 400ft line of sight range

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Applications

Use with the following Viking models to remotely activate relays for door/gate control, etc:

| Model | Description | DOD |
|-------------|---|-----|
| AES-2000 | Accessible Entry System (with ES-3 controller) | 202 |
| AES-2005 | Accessible Video Entry System (with ES-3 controller) | 204 |
| C-4000 | Apartment / Office Entry Controller | 164 |
| ES-1 | Stand Alone Keyless Entry System | 193 |
| ES-3 | Entry System Controller (requires power adapter) | 195 |
| K-1200-IP | VoIP 12 Button Apartment Entry Phone | 271 |
| K-1205-IP | VoIP Apartment Entry Phone with Camera | 272 |
| K-1270-IP | VoIP Entry Phone with Card Reader | 273 |
| K-1275-IP | VoIP Entry Phone with Camera and Card Reader | 274 |
| K-1700-IP | VoIP Entry Phone with Keypad | 253 |
| K-1705-IP | VoIP Entry Phone with Keypad and Camera | 254 |
| K-1770-IP | VoIP Entry Phone with Keypad and Card Reader | 257 |
| K-1775-IP | VoIP Entry Phone with Keypad, Camera, and Card Reader | 258 |
| K-1770-3 | Entry Phone with Keypad and Card Reader | 275 |
| K-1775-3 | Entry Phone with Keypad, Camera, and Card Reader | 280 |
| K-1900-8-IP | VoIP Entry Phone with Handset and Keypad | 361 |

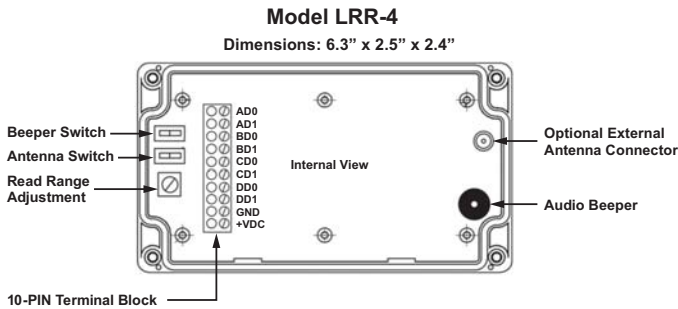
Specifications

Shipping Weight: **LRR-4** = 0.81 lb
LRT-4 = 0.1 lb

(see page 2 for complete specifications)

www.vikingelectronics.com
Information: (715) 386-8861

LLR-4 Specifications



Cable Requirements

24 AWG minimum, multi-conductor stranded with an overall foil shield, for example Belden 9540 or similar. Per the SIA's Wiegand specification, maximum cable length is 400 feet (121.92 m).

Grounding

Shield (drain) continuity must run from the Receiver to the access panel. Shield and reader ground must be tied together at the access panel and connect then to an earth ground at one point.

Power

Power required is 12 VDC nominal at 120mA. The Receiver may be powered by the access panel. A linear power supply is recommended for best operation. Power Supply is not included, but can be powered directly from Viking model **ES-1**, **K-1700-IP**, **C-4000**, **AES-2000**, and **AES-2005** entry systems. When used with an **ES-3** a separate 12 VDC power supply is required.

Mounting

The Receiver may be mounted indoors or outdoors. The base of the enclosure includes a drill template providing mounting provisions to a wall box (standard North American and European), as well as pre-drilled holes in the four corners allowing mounting to a flat surface.

Read Range Adjustment

As shipped, the Receiver is set for the maximum read range, which is nominally up to 400 feet. This may be reduced by adjusting the range pot in the counter-clockwise direction. Additionally, for optimal read range it is important that the Receiver be mounted as far from potential interference sources as possible. These sources may include, but are not limited to, large metal obstructions, as well as magnetic fields and radio transmissions. Note for each installation, read range may vary.

External LED Indicator (Beeper Switch must be set to ON in order for the external LED to operate)

Amber: Normal powered on state

Flash Green: An activated Transmitter button press has been received and processed

Flash Red: A non-activated Transmitter button press has been detected

Off: Receiver is not powered on, or failed to power up successfully (or Beeper Switch is turned to OFF)

Antenna Switch

As shipped, the Receiver's Antenna Switch is set in the INT position. If a separate antenna is to be used, then the switch should be set in the EXT position.

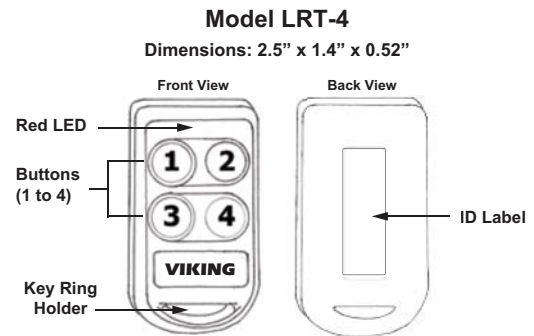
Beeper Switch

As shipped, the Receiver's Beeper Switch is set in the ON position. If the installation technician prefers to disable the beeper and External LED Indicator, then the Beeper Switch should be set in the OFF position.

10-Pin Terminal Block - Refer to the information below for cabling to the Receiver:

AD0: Button One, Wiegand Data 0, Channel A (GREEN)
 AD1: Button One, Wiegand Data 1, Channel A (WHITE)
 BD0: Button Two, Wiegand Data 0, Channel B (GREEN)
 BD1: Button Two, Wiegand Data 1, Channel B (WHITE)
 CD0: Button Three, Wiegand Data 0, Channel C (GREEN)
 CD1: Button Three, Wiegand Data 1, Channel C (WHITE)
 DD0: Button Four, Wiegand Data 0, Channel D (GREEN)
 DD1: Button Four, Wiegand Data 1, Channel D (WHITE)
 GND: Power, 0VDC (Ground)
 +VDC: Power, 12VDC Nominal

LRT-4 Specifications



ATTENTION: When ordering LRT-4 Transmitters, quantity, Facility Code, starting Transmitter, and Proximity Module Number must be specified. Please use the attached order form on page 4.

Output Format

Transmitters are sequentially coded in the industry standard 26bit Wiegand format, with exact number sequences. The Transmitter has an external number printed on the ID label found on the back of the Transmitter. Specific coding details, including internal number, facility code, and ID range can be found on the **LRT-4** order form on page 4.

Enrollment

Transmitter must be clicked twice within a Receiver's read range to be learned upon initial Receiver power up. This synchronizes the transmitter and receiver rolling codes. If the transmitter is clicked more than five times outside of the Receiver's read range the transmitter and receiver will be desynchronized. To re-sync, click twice again within read range.

Time-Out

LRT-4 transmitters make use of a time-out feature to preserve battery life and prevent interference with other transmitters in 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. 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.
3. Insert the new CR2032, 3.3V, lithium battery. Be sure the plus (+) side of the battery is visible when installed.
4. Snap both pieces together.

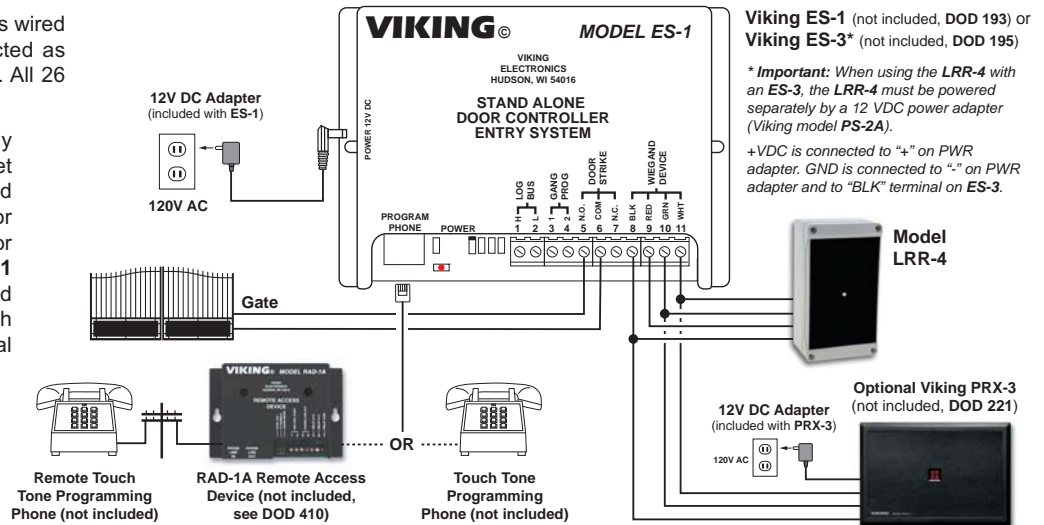
Range

Up to 400ft line of sight.

Using a LRR-4 with an ES-1 or ES-3 for Wireless Gate Control

A basic gate access controlled entry point is wired as shown right. The relay can be connected as either Normally Open, or Normally Closed. All 26 bit Wiegand devices are fully supported.

Power and Data from the ES-1 (Data only from ES-3) can be installed up to 500 feet away using 24 gauge wire. Viking Wiegand devices can run even further. The ES-1 or ES-3 can support either a LRR-4 Receiver or Proximity Card Reader (Viking model PRX-1 or PRX-3), or both. If any two Wiegand devices are used, one can be placed on each side of a doorway/gate for bi-directional (entry and exit) access control.



Using a LRR-4 with a C-4000 to Wirelessly Control up to 4 Gates

For more information see Viking C-4000, Apartment / Office Entry Controller, Product Manual DOD 164.

Troubleshooting

| Issue / Possible Causes | Correction 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 Knob | Adjustable knob should be set to the maximum setting |
| Prox insert not working / Compatibility | Support with HID@ 125-kHz Proximity Protocol readers only |

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

Note 1. This lithium battery is widely available, and commonly used in electronic devices, including cameras and remote controls.

Note 2. Dispose of the battery according to local requirements. Recycle when possible.

Note 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.

Warranty

IF YOU HAVE A PROBLEM WITH A VIKING PRODUCT, CONTACT: VIKING TECHNICAL SUPPORT AT (715) 386-8666

Our Product Support Department is available for assistance Monday - Friday 8am - 5pm central time. So we can give you better service, before you call please:

1. Know the model number, the serial number and what software version you have (see serial label).
2. Have your Technical Practice in front of you.
3. It is best if you are on site.

RETURNING PRODUCT FOR REPAIR

The following procedure is for equipment that needs repair:

1. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (RA) number. The customer MUST have a complete description of the problem, with all pertinent information regarding the defect, such as options set, conditions, symptoms, methods to duplicate problem, frequency of failure, etc.
2. Packing: Return equipment in original box or in proper packing so that damage will not occur while in transit. Static sensitive equipment such as a circuit board should be in an anti-static bag, sandwiched between foam and individually boxed. All equipment should be wrapped to avoid packing material lodging in or sticking to the equipment. Include ALL parts of the equipment. C.O.D. or freight collect shipments cannot be accepted. Ship cartons prepaid to: Viking Electronics, 1531 Industrial Street, Hudson, WI 54016
3. Return shipping address: Be sure to include your return shipping address in the box. We cannot ship to a PO Box.
4. RA number on carton: In large printing, write the R.A. number on the outside of each carton being returned.

RETURNING PRODUCT FOR EXCHANGE

The following procedure is for equipment that has failed out-of-box (within 10 days of purchase):

1. Customer must contact Viking's Technical Support at 715-386-8666 to determine possible causes for the problem. The customer MUST be able to step through recommended tests for diagnosis.
2. If the Technical Support Product Specialist determines that the equipment is defective based on the customer's input and troubleshooting, a Return Authorization (R.A.) number will be issued. This number is valid for fourteen (14) calendar days from the date of issue.
3. After obtaining the R.A. number, return the approved equipment to your distributor, referencing the R.A. number. Your distributor will then replace the Viking product using the same R.A. number.
4. The distributor will NOT exchange this product without first obtaining the R.A. number from you. If you haven't followed the steps listed in 1, 2 and 3, be aware that you will have to pay a restocking charge.

TWO YEAR LIMITED WARRANTY

Viking warrants its products to be free from defects in the workmanship or materials, under normal use and service, for a period of two years from the date of purchase from any authorized Viking distributor. If at any time during the warranty period, the product is deemed defective or malfunctions, return the product to Viking Electronics, Inc., 1531 Industrial Street, Hudson, WI., 54016. Customer must contact Viking's Technical Support Department at 715-386-8666 to obtain a Return Authorization (R.A.) number.

This warranty does not cover any damage to the product due to lightning, over voltage, under voltage, accident, misuse, abuse, negligence or any damage caused by use of the product by the purchaser or others. This warranty does not cover non-EWP products that have been exposed to wet or corrosive environments. This warranty does not cover stainless steel surfaces that have not been properly maintained.

NO OTHER WARRANTIES. VIKING MAKES NO WARRANTIES RELATING TO ITS PRODUCTS OTHER THAN AS DESCRIBED ABOVE AND DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.

EXCLUSION OF CONSEQUENTIAL DAMAGES. VIKING SHALL NOT, UNDER ANY CIRCUMSTANCES, BE LIABLE TO PURCHASER, OR ANY OTHER PARTY, FOR CONSEQUENTIAL, INCIDENTAL, SPECIAL OR EXEMPLARY DAMAGES ARISING OUT OF OR RELATED TO THE SALE OR USE OF THE PRODUCT SOLD HEREUNDER.

EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY. WHETHER IN AN ACTION BASED ON CONTRACT, TORT (INCLUDING NEGLIGENCE OR STRICT LIABILITY) OR ANY OTHER LEGAL THEORY, ANY LIABILITY OF VIKING SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE PRODUCT, OR AT VIKING'S OPTION, REFUND OF THE PURCHASE PRICE AS THE EXCLUSIVE REMEDY AND ANY LIABILITY OF VIKING SHALL BE SO LIMITED.

IT IS EXPRESSLY UNDERSTOOD AND AGREED THAT EACH AND EVERY PROVISION OF THIS AGREEMENT WHICH PROVIDES FOR DISCLAIMER OF WARRANTIES, EXCLUSION OF CONSEQUENTIAL DAMAGES, AND EXCLUSIVE REMEDY AND LIMITATION OF LIABILITY, ARE SEVERABLE FROM ANY OTHER PROVISION AND EACH PROVISION IS A SEPARABLE AND INDEPENDENT ELEMENT OF RISK ALLOCATION AND IS INTENDED TO BE ENFORCED AS SUCH.

Order Form for Viking Model LRT-4 Long Range Transmitters

Please fill out the following form and return it to your Viking distributor or email it to orders@vikingelectronics.com

IMPORTANT: PROGRAMMED TRANSMITTERS ARE
NON-CANCELABLE AND NON-RETURNABLE

CUSTOMER INFORMATION:

Date: _____ Distributor PO#: _____

Contact: _____

Company: _____

Address: _____

City / State / Zip: _____

Phone: _____ Fax: _____

LRT-4 TRANSMITTER AND PROXIMITY MODULE PROGRAMMING:

Quantity: _____

Facility code (2-254): _____

First Internal (programmed) transmitter and proximity module
number (00001-65534): _____

First External Transmitter number: _____

or No External Transmitter Number, check box:

Signature: _____

Quick Definitions:

Facility code: A 3-digit number that each transmitter and proximity module contains in order to provide greater security. Usually the transmitter used at a given building all have the same facility code.

Internal Transmitter and Proximity module number: A 5-digit number that each transmitter contains. This number must be programmed in the transmitter by Viking Electronics

External Transmitter Number: The number that is printed on a label and placed on the back side of each transmitter.

Fill out entire form;
scan and email to:
orders@vikingelectronics.com
or fax to: 715-386-4344

(Internal Use Only)

File Name: _____

Notes: _____

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