# KH3 Series RF Transmitter and Receiver Modules

The KH3 Series is ideally suited for volume use in OEM applications such as remote control / command and keyless entry. It combines a high-performance RF receiver with an on-board remote control encoder and decoder. This provides a complete remote control solution in a single package.

The KH3 Series consists of a separate single channel OOK RF transmitter and RF receiver. These are paired with the Linx DS Series remote control encoder / decoder. Available at 315, 418 and 433.92MHz, the KH3 Series can transmit remote control activations over distances of up to 3,000 feet (1,000 m).

**Simple Addressing:** The modules use the logic state of 10 lines to create a 10-bit address This gives 1,022 ($2^{10}$–2) unique addresses. As long as the states of the lines match on both sides, the modules communicate. These lines are typically connected to DIP switches for easy configuration.

**Large Number of Buttons:** The module has eight lines for connection to buttons or contacts. When a line goes high on the transmitter a corresponding line goes high on the receiver as long as the addresses match. This makes implementing a remote control link very easy.

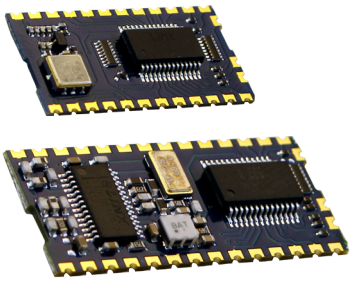
**Simple Implementation:** The modules do not require any programming or configuration of any kind other than the address. They are designed for hardware operation, making implementation easy, low cost and quick.

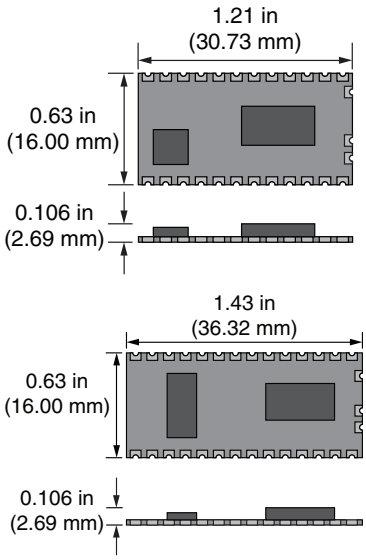
**Designed for Regulatory Compliance:** The KH3 Series is offered in three frequencies that meet the regulatory requirements of many countries worldwide.

**No Tuning:** The modules are matched to 50-ohms and fully tested, so no tuning or external RF components are required.

**Low Power:** Linx designed the KH3 Series with battery-powered applications in mind, so its power consumption has been highly optimized. A power down features give the designer complete control over the module.

**Backwards Compatible:** The KH3 Series is compatible with the KH2 Series. It has been designed to be a drop-in replacement for the most common implementation of the KH2 Series.






| Specifications | |
|---|---|
| Frequency | |
| TXM-315-KH3/RXM-315-KH3 | 315MHz |
| TXM-418-KH3/RXM-418-KH3 | 418MHz |
| TXM-433-KH3/RXM-433-KH3 | 433.92MHz |
| Operating Voltage | |
| TXM-***-KH3 | 2.7 to 5.2VDC |
| RXM-***-KH3 | 2.7 to 3.6VDC |
| TXM-***-KH3 Supply Current @ 0dBm | 1.5mA typical |
| TXM-***-KH3 Supply Current @ Max Power | 2.7mA typical |
| RXM-***-KH3 Supply Current | 5.2mA typical |
| Power Down Current | |
| TXM-***-KH3 | 1µA typical |
| RXM-***-KH3 | 28µA typical |
| TX Output Power | 4dBm max. |
| RX Sensitivity | –112dBm typ. |
| Operating Temperature Range | |
| TXM-***-KH3 | –40 to +70°C |
| RXM-***-KH3 | –30 to +70°C |

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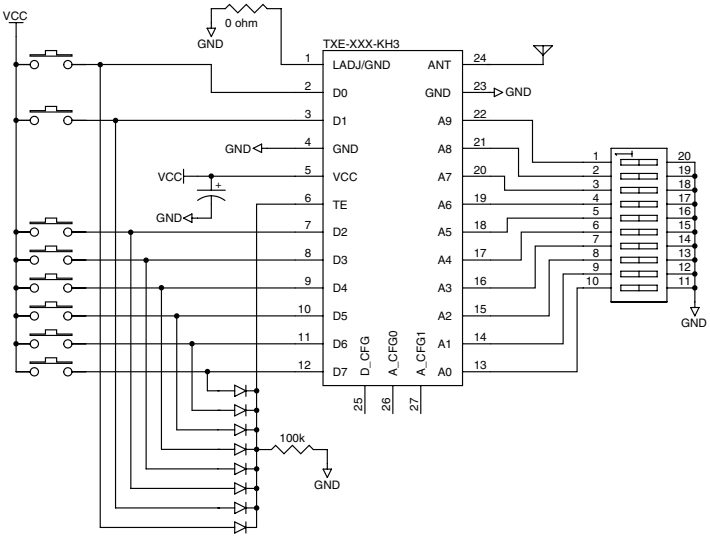
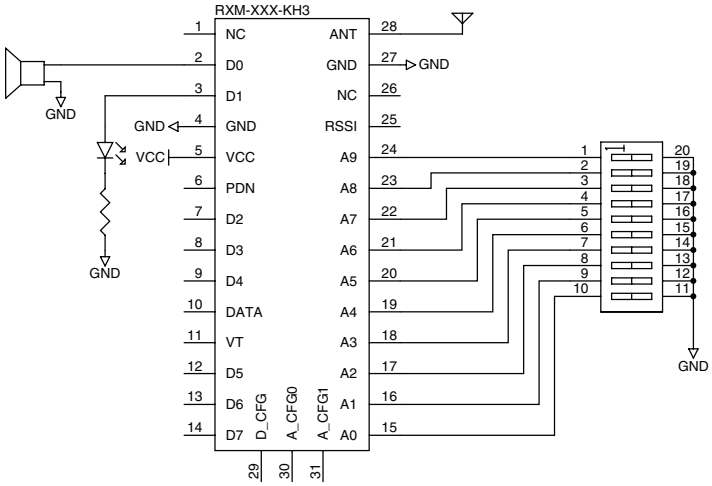
## Typical Application Circuits

The circuits below show the typical schematics for the KH3 Series transmitter and receiver.




Transmitter Typical Application Circuit




Receiver Typical Application Circuit

| Ordering Information | |
|---|---|
| **Part Number** | **Description** |
| TXM-315-KH3 | 315MHz Transmitter / Encoder |
| TXM-418-KH3 | 418MHz Transmitter / Encoder |
| TXM-433-KH3 | 433MHz Transmitter / Encoder |
| RXM-315-KH3 | 315MHz Receiver / Decoder |
| RXM-418-KH3 | 418MHz Receiver / Decoder |
| RXM-433-KH3 | 433MHz Receiver / Decoder |
| EVAL-***-KH3 | KH3 Series Basic Evaluation Kit |

*** = 315, 418 (Standard), 433MHz
Receivers are supplied in tubes of 20 pcs.

## Applications

- Remote control / command
- Gate openers
- Lighting control
- Call systems
- Remote status monitoring
- Home / industrial automation
- Wire elimination

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