KH3 Series RF Transmitter and Receiver Modules

Linx
TECHNOLOGIES

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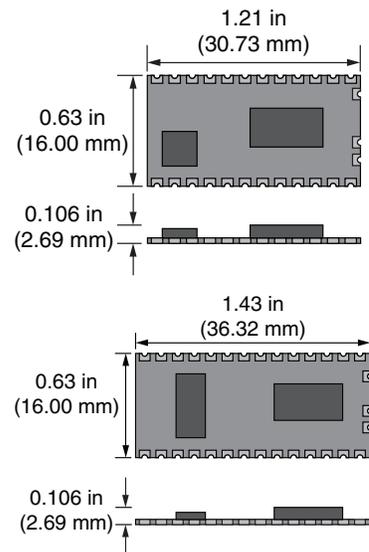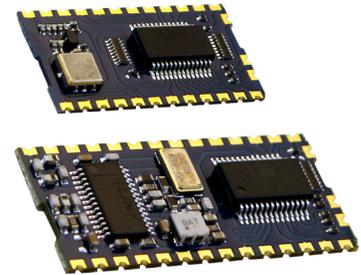
Simple Implementation: The modules do not require any programming or configuration of any kind other than the address. They are designed for hardware operation, making implementation easy, low cost and quick.

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.
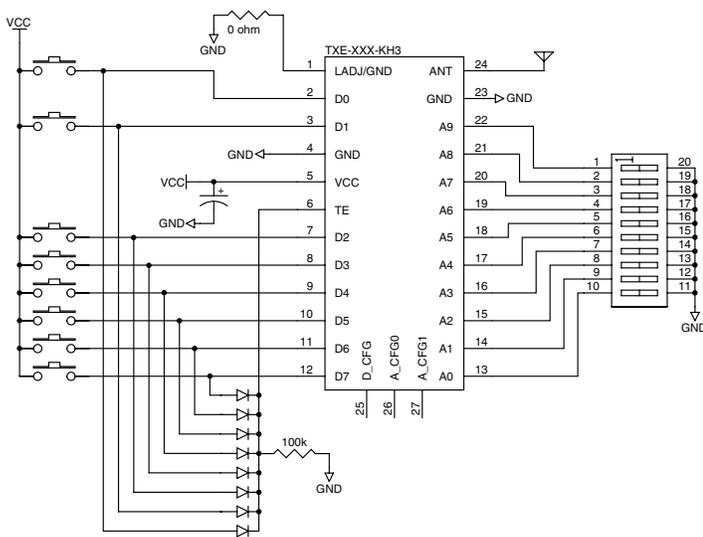
Backwards Compatible: The KH3 Series is compatible with the KH2 Series. It has been designed to be a drop-in replacement for the most common implementation of the KH2 Series.
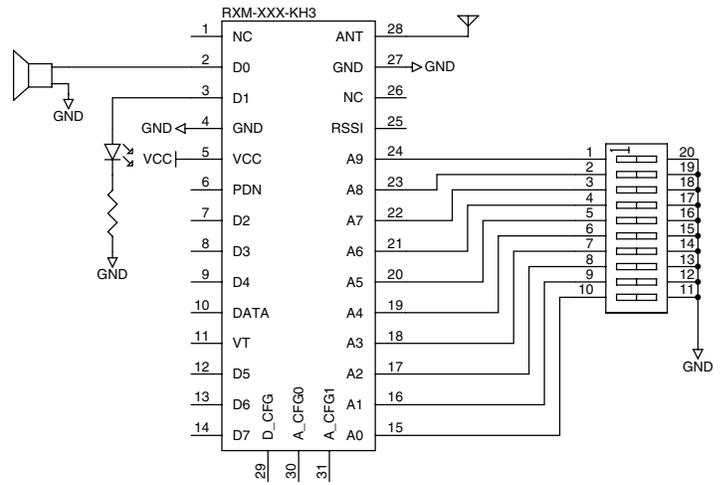
1.21 in (30.73 mm)

0.63 in (16.00 mm)

0.106 in (2.69 mm)

1.43 in (36.32 mm)

0.63 in (16.00 mm)

0.106 in (2.69 mm)

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

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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