

MS Long-Range Handheld Remote Control Transmitter



The MS Long-Range Handheld transmitter is ideal for general-purpose remote control and command applications that require longer transmission distances. The small transmitter has a line of sight range of up to 1,000 feet (300m) when combined with an LR Series receiver and MS Series decoder. As a part of our MS family of wireless remote controls, it is available in 315, 418 (standard), and 433.92MHz. It has been pre-certified for FCC Part 15, Industry Canada and European CE (433MHz only) compliance, reducing costs and time to market.

Address: The transmitter's unique address is created with the press of a button on the back of the unit. While the button is held a 24-bit address is randomized. Once the button is released, whatever number the transmitter lands on is the address. There are 16,777,216 unique addresses which minimizes the likelihood of multiple devices having the same address. This results in far more addresses than could be realized by systems that use DIP switches or cut traces.

Features: The MS Long-Range Handheld Transmitter offers a number of features that are unique among remote control products. These include a large number of data lines, internal address generation, "button level" control permissions, as well as the ability for the decoder to identify the originating encoder.

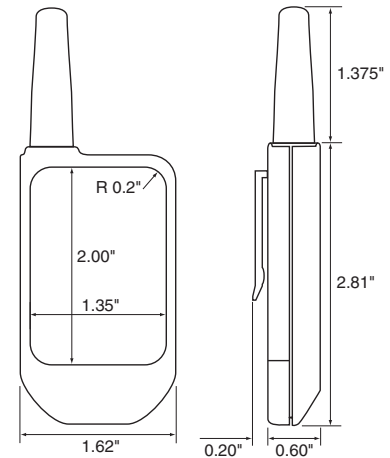
Protocol: The serial protocol used by the MS Series encoder is far superior to older pulse method protocols, so that the MS offers longer range and better performance within that range than older systems. It also results in fast response times.

Tactile Buttons: The membrane switch uses metal snap domes for a sharp click and tactile response.

Pre-certified: All units have FCC and Industry Canada certifications, the 433MHz version also has European CE certification.

Accessories: Optional accessories include retractor reel, lanyard and a rubber boot to protect the transmitter from damage.

Customization: The membrane switch can be customized to suite a particular application. This includes rearranging the buttons, different numbers of buttons (up to 8) and custom artwork. Logos or artwork can also be applied to the case. NREs and minimum orders apply.



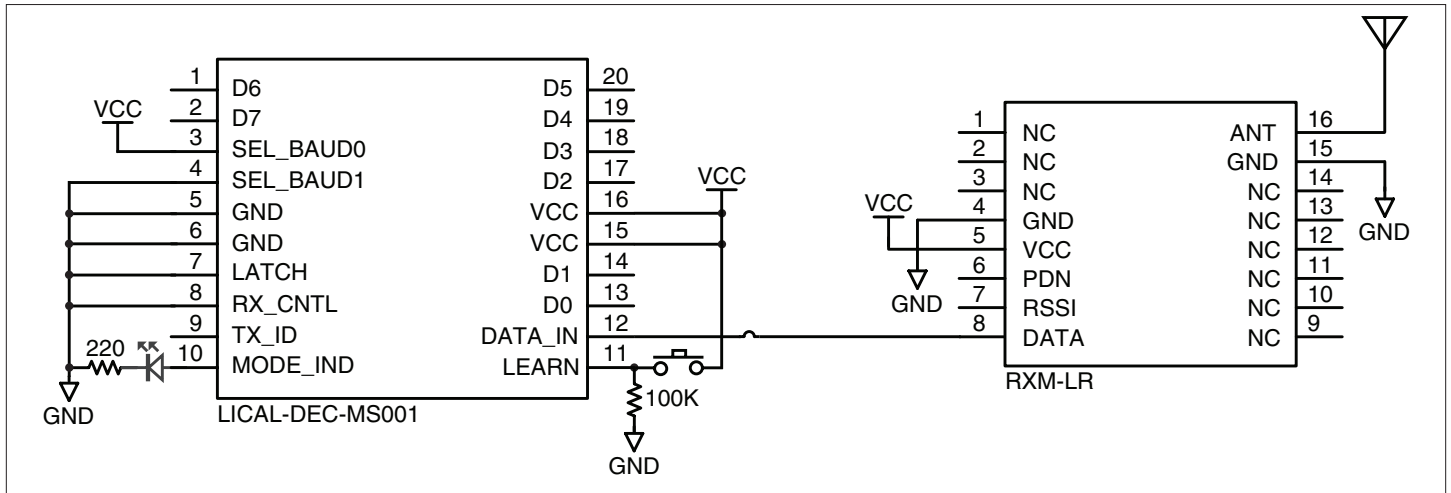
Specifications	
Operating Voltage	2.1 to 3.6VDC
TX Supply Current	3.4mA
Frequency	
CMD-HHCP-315	315MHz
CMD-HHCP-418	418MHz
CMD-HHCP-433	433.92MHz
Power Down current	5nA
Operating Temperature Range	-40 to +85°C

Applications

- General remote control
- Keyless entry
- Garage / gate openers
- Lighting control
- Call systems
- Home / industrial automation

Typical Receiver Application Circuit

The MS Long-Range Handheld transmitter is a complete remote control transmitter solution in a very generic package. The receiver side of remote control applications tends to be much more specific to each product. The receiver should incorporate the LR Series receiver and MS Series decoder as shown in the schematic below. The LR Series RF receiver outputs the data received from the transmitter to the decoder. The decoder decodes and verifies the data and, if everything is correct, replicates the transmitter's inputs on its outputs. These outputs activate whatever circuits are required by the application.

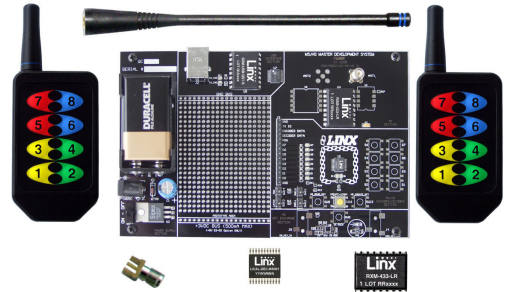


LR Receiver and MS Decoder Schematic

Master Development System

The Master Development System gives a designer all the tools necessary to incorporate the MS Long-Range Handheld transmitter, LR Series receiver, and MS Series decoder into a product. The Master Development System serves several important functions. It allows the performance and features of the transmitter, LR Series and MS Series to be quickly evaluated. It shows how to design with the receiver and decoder and how to interface with other components. It also demonstrates the overall system function, making it easy to develop the initial system design. It allows for additional circuitry to be placed directly on the board so that it can act as the first prototype of the product. All of the signals are available on a wire-wrap header for easy connection to external circuitry.

When the decoder board is plugged into a USB port on a PC, the kit can be used to activate the features in the included software. When a data line goes high on the decoder, a microcontroller sends a command to the computer via a Linx USB interface module to control functions in the software. Please see the documentation included with the Development System for details.



Ordering Information

Part Number	Description
OTX-***-HH-LR8-MS-xxx	MS Long-Range Handheld Transmitter
MDEV-***-HH-LR8-MS	MS Long-Range Transmitter Master Development System

*** = 315, 418 (Standard) or 433.92MHz
 xxx = Custom color, leave blank for black