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ELSEMA PCK43302 433MHz Penta series Keyring Remotes with Frequency Hopping Instructions

Contents

ELSEMA

ELSEMA PCK43302 433MHz Penta series Keyring Remotes with Frequency

Specifications

- **Operating Voltage:** 12 Volt Battery
- **Standby Current:** 1.8uA
- **Current Consumption:** 18mA (typical) at 12 Volts DC supply during transmission
- **Battery Life:** 1.5 years with average use
- **Frequency Band:** 433.100 to 434.700MHz
- **Operating Range:** Up to 200 meters depending on building structure and receiver antenna
- **Decoding System:** Encrypted 17 billion code

combinations or board 12-way code switch

- **Weight:** 30 grams

Product Usage Instructions

Features

The Penta series Keyring Remotes by Elsema offers the following features:

- Small size keyring remote with 2 or 4 buttons
- Dual Coding System with dip switch and encrypted code
- Transmission on 5 different frequencies using frequency hopping spread spectrum (FHSS)
- AS/NZS 4268, CE, and FCC certified for security and quality

Applications

The keyring remotes are ideal for various applications including:

- Keyless access control for automatic gates and doors
- Home automation for garden lights, swimming pool control, etc.
- Wireless security, lighting, and automotive controls

Operation

To use the keyring remote:

1. Match the keyring remote's dip switch with the receiver's dip switch for coding.
2. The remote operates on 5 different frequencies for enhanced security.
3. Simply press the button on the remote to transmit the signal to the receiver.

OEM Configuration
Elsema offers customization options for keypad text and back labels. Contact Elsema with your designs.

FEATURES

- Small Size keyring remote with 2 or 4 buttons
- Dual Coding System, dip switch, and encrypted code
- Transmission on 5 different frequencies
- Uses frequency hopping spread spectrum (FHSS)
- One of the most secure remote controls on the market
- AS/NZS 4268, CE and FCC certified

APPLICATIONS

- Keyless access control for automatic gates and doors
- Home automation i.e. garden lights, swimming pool control, etc.
- Wireless security, lighting,g and automotive controls …. and anywhere else you need a wireless signal to transmit a contact closure

DESCRIPTION

- The PentaCODE® dual coding system gives the installer the option to use the classic 12-way dip switch coding or one of over 17 billion encrypted codes.
- With the 12-way dip switch, just match the keyring remotes and the receiver's dip switch and it's coded.
- With the encrypted code, you switch all the12-wayy dip switches OFF and the remote and receiver automatically ggointo the encrypted coding. The Pentacode® remotes, when used in encrypted mode, can be programmed from another working remote.

OEM CONFIGURATION
Elsema can customize keypad text and back labels to suit customer needs. Provide us with your designs. The label dimension is on page 5.

TECHNICAL DATA

Operating Voltage	12 Volt Battery
Standby Current	1.8uA
Current Consumption	18mA (typical) at 12 Volts DC supply during transmission
Battery life	1.5 years with average use
Frequency Band	433.100 to 434.700MHz
Operating range	up to 200 metres depending on the building structure and receiver antenna
Operating Temperature Range	-5 to 50°C
Decoding System	Encrypted 17 billion code combinations or board 12-way code switch
Weight	30 grams

ORDERING INFORMATION

Part Number	Description
PCK43302	2-button, Keyring Transmitter
PCK43304	4-button, Keyring Transmitter

COMPATIBLE RECEIVERS

Below is a list of compatible receivers for the PentaCODE® keyring remotes.

PCR43301RE 1-Channel Receiver with Relay Output. Enclosed in a case	**PCR43302P** 2-Channel Plug in type Receiver with Open Collector Output	**PCR43302R** 2-Channel Receiver with Relay Outputs	**PCR43302RE** 2-Channel Receiver with Relay Outputs. Enclosed in a case
PCR43301240R 1-Channel Receiver with 240VAC mains supply	**PCR43301240RE** 1-Channel Receiver enclosed in an IP66 case	**PCR43302240R** 2-Channel Receiver with 240VAC mains supply	**PCR43302240RE** 2-Channel Receiver enclosed in an IP66 case
PCR43304R 4-Channel Receiver with Relay Outputs	**PCR43304RE** 4-Channel Receiver enclosed in an IP66 case	**PCR43305R** 5-Channel Receiver with Relay Outputs	**PCR43305RE** 5-Channel Receiver enclosed in an IP66 case

ELSEMA'S INVENTION

Elsema has once again revolutionized the wireless, automatic gate and door industry. With our next generation of Penta series that uses dual coding, frequency hopping,g and customizable features, these remotes and receivers are superior to normal garage door rolling code remotes. Penta originated from the 5 sides of a pentagon. The 5 ides represent each frequency the keyring remote control operates on. Most keyring remote controls operate on a single frequency, we wanted to be the first in the world to operate a keyring remote control on 5 different frequencies giving it a high level of security and immunity to interference.
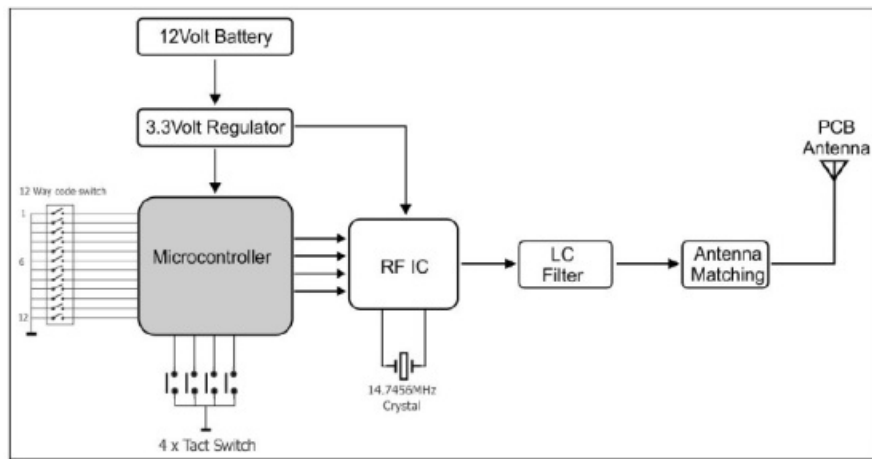
KEYRING DIMENSIONS
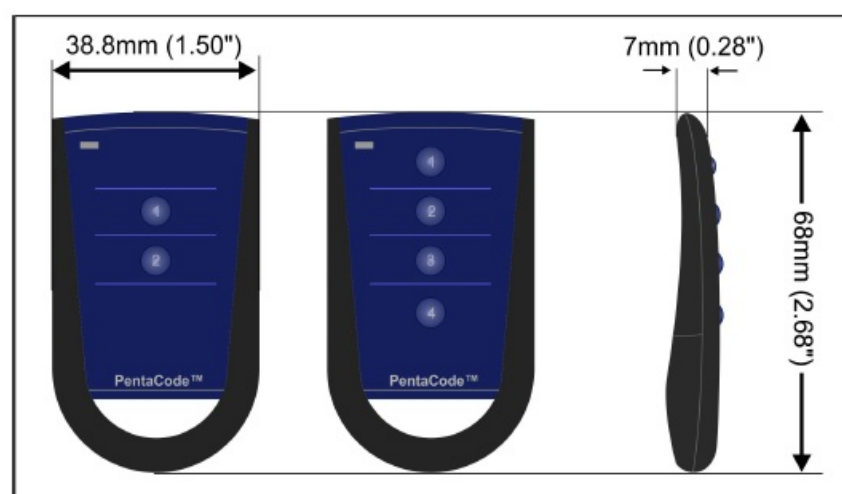
THEORY OF OPERATION

The microcontroller, upon detecting an active tact switch input, reads the setting of the 12-way dipswitch. The active input and the dipswitch data are then sent to the RF IC. The RF IC sends thefrequency-modulatedd (FM) carrier to the PCB antenna via the LC filter and antenna-matching

BLOCK DIAGRAM

FREQUENCY HOPPING

The PCK series keyring remotes use a frequency hopping spread spectrum (FHSS). When a button is pressed, the Dual Coding System simultaneously transmits the code on 5 different frequencies, making it impossible for the remote to be interfered with or jammed. This allows multiple transmitters to be used near no interference or jamming. This technology is usually used in very expensive equipment and military application.

BATTERY REPLACEMENT

The PCK series remotes use a 12 Volts DC battery (A23). The battery life is expected to be 1.5 years with average use. To replace the battery, press and slide the battery cover located at the back of the remote. This exposes the battery. Replace it with the same type of battery while observing the polarity. There may be a risk of explosion ifthe wrong battery type is used.

Labeling/ Instruction Requirement

The PCK43302 and the PCK43304 keyring transmitters have been labeled by FCC and Australian regulations effective to the day of this document. No further labeling is required, but it is necessary to include the FCC compliance statement and Declaration of Conformity in the end user's product statement.

Label Dimensions

Custom Design PentaCODE® FOB remotes with your company logo and colors. Use the below templates and send us your designs. MOQ: 50pcs per order

PCK43302

Front Lexan Label Back Label

PCK43304

Front Lexan Label Back Label
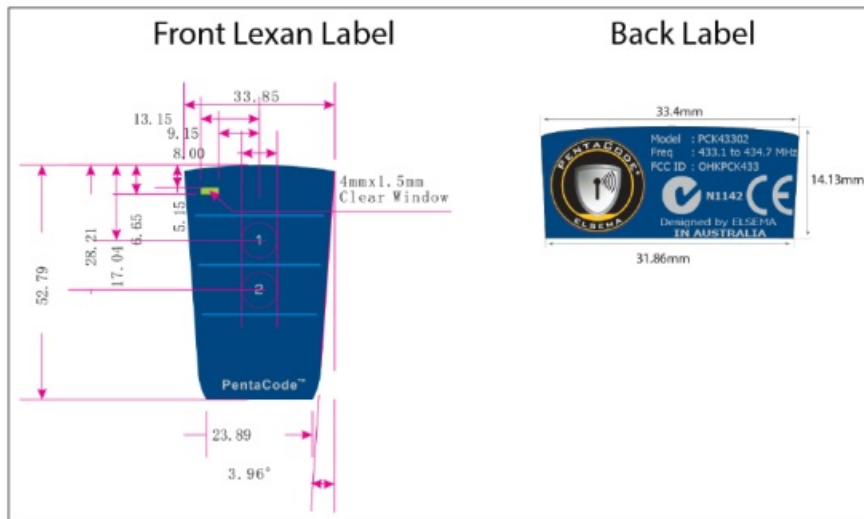
PentaCODE® Programming Instructions

112-WayDip Switch Coding

1. Set a random code on the receiver dip switch by flicking the dip switches "On" or "Off". (DO NOT USE THE DEFAULT FACTORY SETTING FOR THE 12-WAY DIP SWITCH AS THIS IS A COMMON CODE)
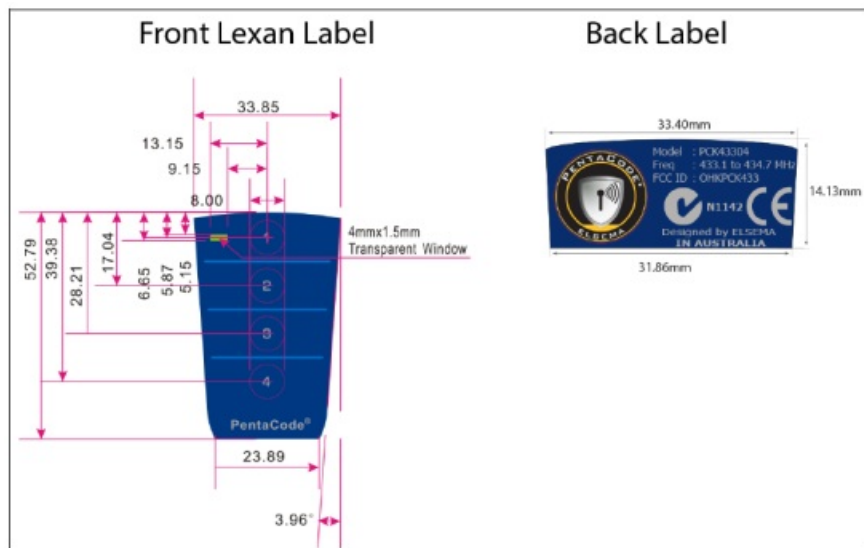2. Open the battery cover of the PentaCODE® remote.
3. Match the 12-way dip switch to the rereceiver's2-way dip switch.
4. Press button 1 on the remote and the receiver output should activate. This is indicated by the receiver LED.

To program the same PentaCODE® remote buttons 2, 3 ,or 4 to another receiver change dip switches 11 and 12 in the 2nd, 3rd, and 4th receivers. For example:

	Receivers Dip Switch 11	Receiver Dip Switch 12
Receiver 1	Off	Off
Receiver 2	On	Off
Receiver 3	Off	On
Receiver 4	On	On

Encrypted Coding – (All 12-Way Dip Switches must be "Off")
Coding the PentaCODE® remotes and receivers can be done in 3 different ways.

1. Receiver to a Remote
2. Remote to a Receiver
3. Remote to a Remote

Receiver to a Remote

1. Press and hold the program button 1 on the receiver.
2. Press the remote button you want to program for 2 seconds, receiver LED will flash Gree.n
3. Release the button on the receiver and the remote.
4. The LED on the PentaCODE® remote will flash to confirm the coding has been successful.

Remote to a Receiver / Remote to a Remote
Set one of the remotes or receivers to broadcast its code. The broadcaster's code will be programmeintoto the other units.

1. To broadcast the remote code make sure all 12 dip switches are "off". Then press and hold button 1 and flick dip switch 12 "on" and then "off". This is confirmed by the LED's being on for 10 seconds. You can release the remotes button 1.
2. To broadcast the rreceivercode, make sure all 12 dip switches are "off" and then flick dip switch 12 "on" and then "off". This is confirmed by the green LED being on for 10 seconds.
3. While broadcasting the code press button 1 on a different remote or receiver for 1 second and then release the button. The LED will flash twice to confirm successful programming.
4. Broadcasting will be latched on for 10 seconds or stop if any dipswitch is turned on.

Deleting Receivers Memory
Short the CC pin on the receiver for 10 seconds. This will delete all the remotes from the receiver's memory.

REGULATORY COMPLIANCE STATEMENTS

American Users
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.

FCC Notice
This device has been tested and found to comply with the limits for a Class B digital device, puunderart 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This device generates, uses, and can radiate radio frequency energy and, if not installed and used by the instruction, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- increase the separation between the equipment and receiver.
- Connect the equipmenttoo an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution:
Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

Australian and New Zealand Users
This device has been tested and found to comply with the limits for a Class [B] digital device, under the Australian/New Zealand standard AS/NZS 4268 set out by the Spectrum Management Agency.

Frequently Asked Questions

- **How long is the battery life of the keyring remote?**

  The battery life is approximately 1.5 years with average use.

- **What is the operating range of the keyring remote?**

  The operating range is up to 200 meters, depending on the building structure and receiver antenna.

- **Can the keyring remote be used for home automation purposes?**

Yes, the keyring remote can be used for home automation tasks such as controlling garden lights and swimming pools.

Documents / Resources

[ELSEMA PCK43302 433MHz Penta series Keyring Remotes with Frequency Hopping](#) [pdf] Instructions
PCK43302, PCK43304, PCK43302 433MHz Penta series Keyring Remotes with Frequency Hopping, PCK43302, 433MHz Penta series Keyring Remotes with Frequency Hopping, Keyring Remotes with Frequency Hopping, Frequency Hopping

References

- **User Manual**