

User Manual for 433MHz FM signal transponder

1 Function Summary

The 433MHz FM signal transponder mainly serves to expand wireless signal distance (When the level of transponder increases by one, wireless signal distance will increase by two times. Level 4 is the maximum level permitted for transponders.) to ensure the alarm host can normally receive wireless signals transmitted by detectors when the distance within which the alarm host can receive wireless signals transmitted by detectors exceeds wireless distance of detectors themselves(The 433MHz FM signal transponder can only transmit wireless signals transmitted by our 433MHz detector).

2 Name of Main Components and Use Instructions

① Indicator

- “Run” Indicator:** When “Run” Indicator is on, that means the system enters into “Run” mode. In this mode, the system can receive and transmit wireless signals.
- “Learn” Indicator:** When “Learn” Indicator is on, that means the system enters into “Learn” mode. In this mode, detectors can be added or deleted.
- “RF” Indicator:** When “RF” Indicator is on, that means the system is under the mode of transmitting wireless signals from detectors which have learnt the code with the system.
- “Erase” Indicator:** When “Erase” Indicator is on, that means the system is under the mode of deleting detectors which have learnt the code with the system.

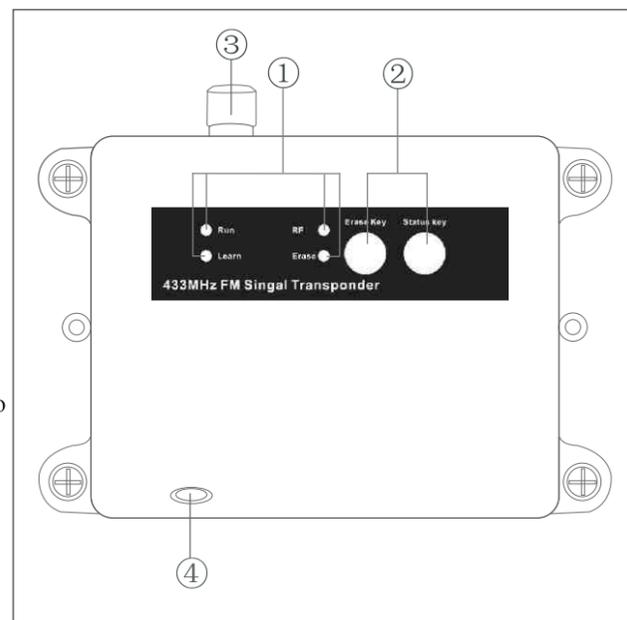
【Note】 When you delete detectors which have learnt the code with the system, “Erase” Indicator will be on for 1s and the buzzer will sound for 1s at the same time.

② Key

- Status Key:** Switch from one mode to another
When the FM signal transponder enters into “Run” mode (“Run” Indicator is on), press Status Key 3 times to switch to “Learn” mode (“Learn” Indicator is on). When the FM signal transponder enters into “Learn” mode (“Learn” Indicator is on), press Status Key once to switch to “Run” mode (“Run” Indicator is on).
- Erase Key:** Delete detectors
When the FM signal transponder is in “Learn” mode (“Learn” Indicator is on), press Erase Key once to delete detectors latest learnt (“Erase” Indicator is on for 1 second). Hold down Erase Key for more than 3 seconds to delete all detectors learnt (“Erase” Indicator will be on for 1s and the buzzer will sound for 1s at the same time.).

③ Hole for Antenna Installation

④ Power Input Jack



3 Detector Learning & Deletion Procedures

Detectors shall be learnt or deleted in “Learn” mode.

1、Detector Learning Procedures

- When the transponder is powered on, all LED indicators will go out after being on for 1 second and the buzzer will sound for 1s at the same time. Then the transponder will switch to “Run” mode and “Run” Indicator is turned on at the same time.
- Press Status Key 3 times (The interval between two consecutive key presses is less than 1 second) to switch to “Learn” Mode (“Learn” Indicator is on), and then detectors can be learnt.
- Trigger detectors to be learnt. If detectors are successfully learnt, “Learn” Indicator will blink once and the buzzer will sound once.
- Check if detectors are successfully learnt: After detectors have been learnt, press Status Key once to switch to “Run” mode (“Run” Indicator is on). In “Run” mode, trigger detectors which have been learnt to observe if “RF” Indicator is lit. If “RF” Indicator is lit, it means detectors are successfully learnt; otherwise, it means detectors are not successfully learnt.

2、Detector Deletion Procedure

- When the transponder is powered on, all LED indicators will go out after being on for 1 second and the buzzer will sound for 1s at the same time. Then the transponder switches to “Run” mode and “Run” Indicator is turned on at the same time.
- Press Status Key 3 times to switch to “Learn” mode (“Learn” Indicator is on), and then detectors can be deleted.
- Press Erase Key once to delete detectors latest learnt by the transponder (“Erase” Indicator is on for 1 second). Hold down Erase Key for more than 3 seconds to delete all detectors learnt by the transponder (“Erase” Indicator will be on for 1s and the buzzer will sound for 1s at the same time.).
- Check if detectors are successfully deleted: After detectors have successfully been deleted, press Status Key once to switch to “Run” mode (“Run” Indicator is on). In “Run” mode, trigger detectors which have been deleted to observe if “RF” Indicator is lit. If “RF” Indicator is not lit, it means detectors are successfully deleted; otherwise, it means detectors are not successfully deleted.

4 Precautions

- Each FM signal transponder can learn maximum 50 different address codes of detectors. Once the limit value is exceeded, any address code of detectors can not be learnt. At the same time, “Learn” Indicator will stop blinking and the buzzer will stop sounding.
- The host will automatically exit “Learn” mode and go back to “Run” mode 2 minutes after the host enters into “Learn” mode.
- When the transponder learns address codes of detectors, detectors shall be kept about 1m away from the FM signal transponder. If there are more external wireless signals with the frequency range the same as that of the transponder, never let the transponder learn address codes of detectors until the transponder suffers less disturbance from wireless signals with the frequency range the same as that of the transponder.
- Never install this product in the open air or at the top of a building so as to avoid rain water or lightning stroke.
- Never install any metal componenets near or above the 433MHz FM signal transponder in order to avoid affecting the reception of wireless signals.

5 Working Principle and Setup Method of Multiple FM Signal Transponders

If a single FM signal transponder fails to transmit long-range wireless signals, multiple FM signal transponders shall be used to ensure the host can receive wireless signals transmitted by the long-range detector. Long-range wireless signals can be transmitted by multiple levels of transponders stepby step. The FM signal transponder is specified as follows: Level 1 Transponder can only transmit wireless signals transmitted by detectors. Level 2 Transponder can only transmit wireless signals from Level 1 Transponder. Level 3 Transponder can only transmit wireless signals from Level 2 Transponder. Level 4 Transponder can only transmit wireless signals from Level 3 Transponder. However, the wireless signals transmitted by any level of transponder can be received by the alarm host. In addition, the FM signal transponder can learn codes only when set as Level 1 Transponder. Upon completion of learning, please turn the dip switch to the corresponding.

The level of multiple FM signal transponders can be set as required as follows:

- If position 1 of four-position of Dip switch is set at ON position, and other 3 positions are set at OFF position, it means the transponder is set at Level 1.
- If position 2 of four-position of Dip switch is set at ON position, and other 3 positions are set at OFF position, it means the transponder is set at Level 2.
- If position 3 of four-position of Dip switch is set at ON position, and other 3 positions are set at OFF position, it means the transponder is set at Level 3.
- If position 4 of four-position of Dip switch is set at ON position, and other 3 positions are set at OFF position, it means the transponder is set at Level 4.

Dip Switch Position	1	2	3	4
Level 1	ON	OFF	OFF	OFF
Level 2	OFF	ON	OFF	OFF
Level 3	OFF	OFF	ON	OFF
Level 4	OFF	OFF	OFF	ON

- The factory default setting of the transponder level is Level 1.

Note 1: During signal transmission (RF Indicator flashes), any keypress is not allowed for the FM signal transponder. If a keypress event is performed carelessly, all indicators may be on continuously and the buzzer may keep sounding. For recovery, please cut off the transponder, and power it up again.

Note 2: If the FM signal transponder stops learning any address, or all addresses are erased, “Erase” Indicator does not flash when a single address is erased.

6 Technical Parameters

Operating Voltage	12V~15V	Transmitting Distance	1km
Operating Current under Receiving Mode	46mA		
Operating Current under Transmitting Mode	320mA (Power Feeding Voltage 15V)	Operating Temperature Range	-40℃~+85℃
	290mA (Power Feeding Voltage 12V)		