

ZC179 RFID module manual

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1. GENERAL DESCRIPTION

- Based on PIC12F629 microcontroller, ZC179 RFID module can be used on all kinds of standard 125 KHz contactless IC cards. Up to 25 cards, each has 64bits unique ID, can be saved in this module.
- High power relay, DC load (24V, 3A max) or AC load (277V, 10A max).
- Apply to all kinds of security, ID challenge cases.
- Compatible to 179 module from Welleman Inc.

2. PRODUCT MANIFEST

- 1 ZC179 RFID module
- 1 near field antenna
- 1 coaxial cable, connecting the RFID module and antenna.
- 2 standard 125KHz contactless IC card

3. USER' S GUIDE

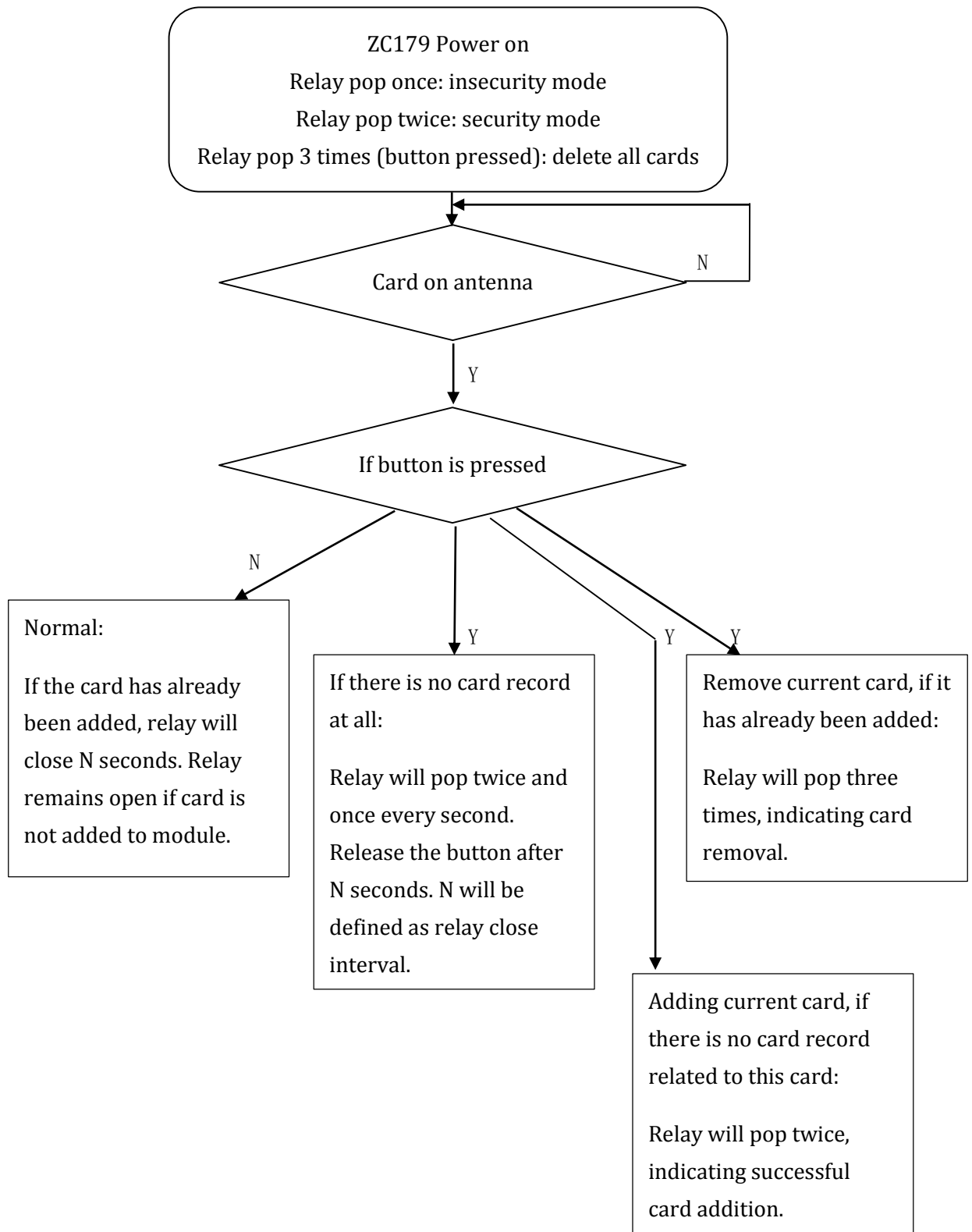
- Mode: ZC179 RFID module has two modes: security and insecurity. In security mode, module will open the gate only when a valid card appears on antenna. However, it will open the gate for ANY card in insecurity mode. By adding user' s cards, ZC179 will go into security mode.
- Power on: If the relay on ZC179 module pop once, it' s in the insecurity mode, every time you turn on its power. If the relay pop twice (tick tick), it' s in the security mode.
- First time settings: Place the card on antenna, press module' s button. The relay will pop twice and once every second after that. Release then button after few seconds (N seconds, N<250), ZC179 module will save it. After this interval setting, ZC179 will open the gate for N seconds, once it confirms a valid card. Meanwhile, ZC179 will go into security mode, after adding this card. You can add 24 more cards, each has 64 bits unique ID.
- To add cards: Place the card on antenna, press module' s button. The relay will pop twice. If ZC179 module already has 25 cards in its memory, the relay will pop 5 times and this card will not be added.

- To remove cards: Place the card on antenna, press module' s button. If this card has already been added to ZC179 module, the relay will pop 3 times. On the contrary, relay will pop twice and add this card, if this card doesn' t exist in module' s memory. Please note that ZC179 module will go into insecurity mode, if user deletes all the cards from its memory.
- To remove all cards: Press module' s button before power on ZC179 module. The relay will pop 3 times, while all the card records will be deleted.
- To open the gate: Make sure the button is released. The relay will be closed for N seconds, once ZC179 module finds a valid card. For security reason, relay will only be closed for N seconds, if there is a valid card in antenna range.
- Relay states: Rotate state is defined when N equals to zero. In such state, the relay will flip once (ON or OFF), every time a valid card is found. You may set N to zero by releasing the button immediately, when setting up ZC179 module for the first time.

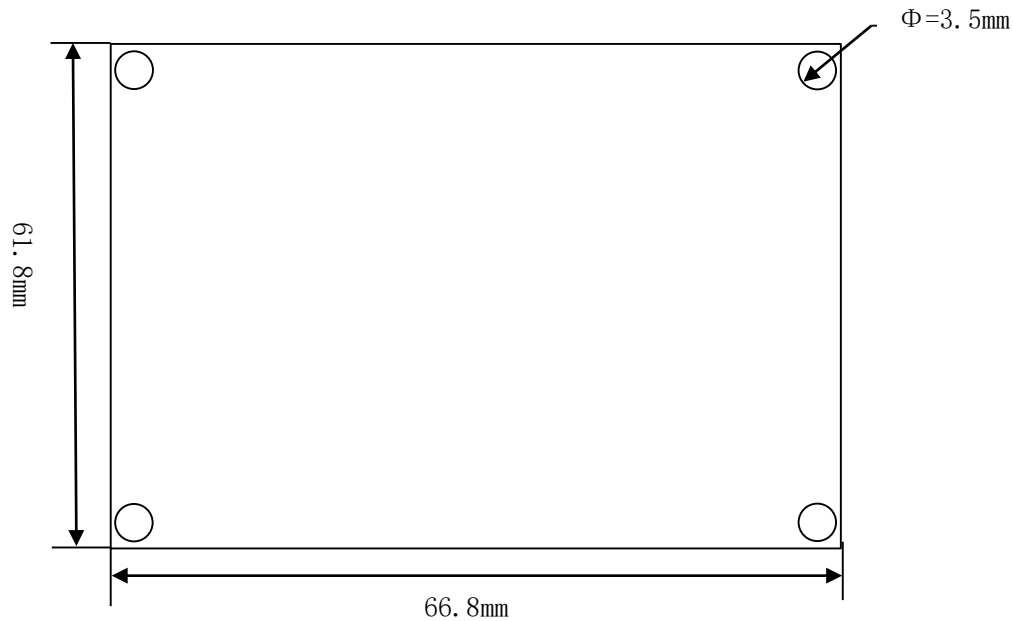
4. PRODUCT DETAILS

RF parameters	
Protocol ISO/IEC18000-Part2	
Carrier frequency	125KHz
tuning range	25KHz
date rate	5.2KBps
modulate mode	00K
antenna type	near field loop antenna
antenna magnetic field	$H \leq 7.5A/m$ rms, $H \geq 1.5A/m$ rms at 5cm
antenna gain	directivity(dB)=1.22 gain(dB)=1.17
antenna impedance	$Z = 0.0017 + 0.6464i$ ($Z_0 = 50$)
Electric parameters	
operating temperature	-20° ~70° C
operating humidity	$\leq 90\%$
supply voltage	DC12V $\pm 10\%$
absolute maximum voltage	DC20V
maximum power consumption	1W

5. OPERATING FLOW



6. MECHANICAL STRUCTURE



7. FCC STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

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. (2) this device must accept any interference received, including interference that may cause undesired operation.

- If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, 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 equipment into 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.

RF exposure warning

- The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.

The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

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

The module's FCC ID is not visible when installed in the host, or If the host is marketed so that end users do not have straight forward commonly used methods for access to remove the module so that the FCC ID of the module is visible; then an additional permanent label referring to the enclosed module: Contains Transmitter Module FCC ID: 2AJVONLS20160926 or Contains FCC ID: 2AJVONLS20160926 must be used.