

ISO14443A, ISO14443B CONTACTLESS IC CARD READER

JMY6021C IC Card Reader

User's manual

(Revision 1.00)

Jinmuyu Electronics Co. LTD

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Please read this manual carefully before using. If any problem, please mail to: Jinmuyu@vip.sina.com



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1 Product introduction

JMY6021C is a RFID read/write module with USB, UART, IIC ports. JMY6021C has various functions and supports multi ISO/IEC standard of contactless card. The RF protocol is complex. The designer combined some frequent used command of RF card and then user could operate the cards with full function by sending simple command to the module.

The module has a length of 506 bytes command buffer could send APDU over 256 bytes to T=CL smart cards. The modules support FSDI=8 of ISO14443-4. The module and antenna is integrated. The impedance between RF circuit and antenna was tuned by impedance analyzer, and then the module has excellent performance and stability.

2 Characteristics

- PCD model: NXP MF RC531
- Working frequency: 13.56MHz
- Supported standard: ISO14443A, ISO14443B, ISO7816
- Card supported: MIFARE 1K/4K, FM11RF08, Ultra Light, DESFire, MIFARE ProX, MIFARE Plus, SR176, SRI512, SRI1K, SRI2K, SRI4K, SRIX4K, T=CL CPU cards(both ISO14443A & ISO14443B).
- Anti collision ability: Full function anti collision; be able to process multi-cards; be able to set operate single card only
- Auto detecting card: Supported, default OFF. The default state can be set.
- Power supply: DC 5V ($\pm 0.5V$)
- Interface: IIC, UART, RS232C, USB HID
- Communication rate: IIC: 400Kbps
UART/RS232C: 19200bps/9600bps/38400bps/57600bps/115200bps
USB: USB 2.0 HID
- Max. command length: JCP04 254 Bytes; JCP05 510 Bytes.
- Interface level: UART/IIC: 3.3V (TTL level; 5V tolerance)
- Power consumption: 150mA(Working mode)
- Operating distance: 100mm (depending on card and antenna design)
- Dimension: 100mm*70mm*10.6mm
- Weight: About 30g
- ISP: Supported
- Operating temperature: -25 to +85 °C
- Storage temperature: -40 to +125 °C
- RoHS: Compliant



3.3 Pin configurations and Pin outs

Pin number	Function	Type	Description
1	ICC	Output	Card in/out indication 0: card in; 1: card out
1	TXD/SDA	Input/output	RS232C TXD / UART TXD / IIC SDA / USB D-
2	RXD/SCL	Input	RS232C RXD / UART RXD / IIC SCL / USB D+
3	VCC	Power	+5V
4	GND	Power	GND

3.4 Model available

- JMY6021CI IIC interface
- JMY6021CT UART interface, TTL level
- JMY6021CS RS232C (UART interface, RS232 level)
- JMY6021CU USB interface 2.0 HID

3.5 Model rule

3.5.1 Model format

1	2	3	4
JMY	6021	X	X

1: company code; 2: product series code; 3: card operating type; 4: communication port type

3.5.2 Card operating type

M: PCD is RC500, support Mifare Class

A: PCD is RC500, support ISO14443A and Mifare Class

C: PCD is RC531, support ISO14443A, ISO14443B and Mifare Class

G: PCD is RC400, support ISO15693

H: PCD is RC632, support ISO15693, ISO14443A, ISO14443B and Mifare Class

D: PCD is RC500, support ISO14443A and Mifare Class with 511 bytes communication buffer

E: PCD is RC531, support ISO14443AB and Mifare Class with 511 bytes communication buffer

F: PCD is RC632, support ISO15693, ISO14443A, ISO14443B and Mifare Class with 511 bytes communication buffer



3.5.3 Communication port

- I: IIC
- T: UART
- S: RS232C
- U: USB

3.5.4 The PCD

	JMY6021A	JMY6021C	JMY6021G	JMY6021H
PCD	MF RC500	MF RC531	SL RC400	CL RC632
JCP04 Protocol	●	●	●	●
JCP05 Protocol	●	●	●	●
MIFARE 1K	●	●		●
MIFARE 4K	●	●		●
MIFARE Ultra Light	●	●		●
MIFARE Ultra Light C	●	●		●
MIFARE Mini	●	●		●
DES fire	●	●		●
T=CL TYPE A	●	●		●
SR176		●		●
SRI512		●		●
SRI1K		●		●
SRI2K		●		●
SRI4K		●		●
SRIX4K		●		●
T=CL TYPE B		●		●
NXP I.CODE SLI			●	●
NXP I.Code 1			●	●
TI Tag it HF-I			●	●
ST LRI			●	●
ISO7816 T=0 & T=1	●	●	●	●
SAM slot	2			
SAM Communication rate	9600, 19200, 38400, 55800, 57600, 115200bps			
Data Flash	512 bytes			
IIC Interface	JMY6021AI	JMY6021CI	JMY6021GI	JMY6021HI
UART Interface	JMY6021AT	JMY6021CT	JMY6021GT	JMY6021HT
RS232C Interface	JMY6021AS	JMY6021CS	JMY6021GS	JMY6021HS
USB Interface	JMY6021AU	JMY6021CU	JMY6021GU	JMY6021HU



3.6 Communication Protocol

Note: for the communication protocol, please refer to " JMY600 SERIES IC CARD RFID R&W MODULE GENERAL TECHNICAL MANUAL V4.51".