



SPECIFICATION

Model

RFT-301 Series

Date

2005/12/01

Access Control
RF Reader

Rev.

A

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RFT-301 SERIES

ACCESS CONTROL RF READER



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1. OVERVIEW

RFT-301 is a high security stand-alone access control system which can function as a single door access control solution and can easily be connected to a RS485 network (up to 255 units).

2. BASIC SPECIFICATION

MODEL	SERIES	FUNCTION	APPEARANCE	INTERFACE
RFT RF Card Reader	3	0: 125K Hz	1: With keyboard	0: RS232 3: RS485 6: Wiegand


MODEL	DIMENSION (mm)L*W*H	NOTE
RFT301-0	87*108*30 (mm)	125K read, RS232 interface
RFT301-3		125K read, RS485 interface
RFT301-6		125K read, Wiegand interface

3. SPECIFICATION

Voltage	8~12VDC (± 5%)
Current	<120mA
Card Type	125K
Distance	0~13cm
Interface	RS232/RS485, Wiegand
Baud Rate	9600BPS
Temperature	Work: 0°C ~ + 60°C Reserve: -20°C ~ + 60°C
Humidity	Work: 20 % ~ 90% RH Reserve: 5% ~ 95% RH
Dimension	108mm (L) x 87mm (W) x 30mm (H)

4. INTERFACE DEFINE

PIN	Color	Definition
Pin1	Yellow	NC
Pin2	Orange	GND
Pin3	Cyan	WGD1
Pin4	Blue	WGD0
Pin5	Brown	GND
Pin6	Grey	ctrlBZ
Pin7	Purple	ctrlLED
Pin8	Cyan	RS232.RX or RS485.B
Pin9	Blue	RS232.TX or RS485.A

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Pin10	Blue	GND
Pin11	Black	GND
Pin12	Black	VCC(DC8~12V)

5. COMMUNICATION PROTOCOL

5.1 Serial protocol format:

Serial communication protocol: RS232/RS485

Serial communication set: Bard Rate 9600, Data bit 8, Verify no, stop bit 1

Protocol format	LEN	CMD	ADDR	DATA	BCC	0x0d	0x0a
Byte	1	1	1	n	1	1	1

LEN: Data length, total of “CMD+ ADDR+ DATA+BCC”

CMD: Command character

ADDR: ID address: from 1to 99

DATA: Need to transmit data

BCC: Verify “LEN CMD, ADDR, DATA”

Remark: When ADDR is 255, it can modify the ID address without land, but it can not operate others

5.2 Serial Command:

	Function	Send/Return	Command /Estate	Data and Description
1	Set access control reader ID Address	Send command	0x01	New ID No. (1byte) , 1~99, exchange to hex
		Return correct	0x01	0f8
2	Set system Password	Send command	0x02	System new password (4byte) , 0~9, hex
		Return correct	0x02	0f8
3	Return card number	Send command	-	-
		Return correct	0x10	Card number (10byte) , hex
4	Retrun keyboard	Send command	-	-

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number	Return correct	0x28	Keyboard number (1byte) , hex
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Return estate code (Return DATA)

Code	Meaning
0xf8	Operate succeed
0xa5	Operate fail
0xa0	Not land system

Example:

Original system password is 1234, set new password 5678, system ID address is 1, set new ID as 5.

1 Set access control reader ID Address

Send: 04010105010d0a
 Operate successful return: 040101f8fc0d0a
 Operate failed return: 040101a5a10d0a
 Without land return: 040101a0a40d0a

2 Set access control reader system password

Send: 07020106070809040d0a
 Operate successful return: 040201f8ff0d0a
 Operate failed return: 040201a5a20d0a
 Without land return: 040201a0a70d0a

5.3 Wiegand 26 output

a Wiegand data format

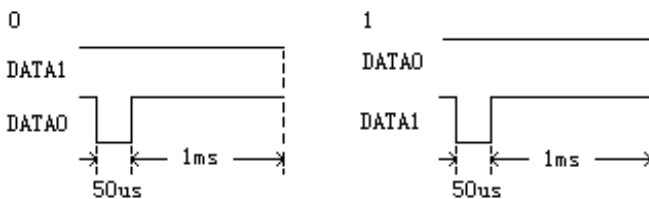
MSB	Hi 12 BIT data	Low12 BIT data	LSB
1 BIT	12 BIT	12 BIT	1 BIT

MSB: Hi 12 BITdata even

LSB: Low12 BIT data odd

b Send order: send as MSB order

c Wiegand 26 estate, send 0 and 1



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6. ESTATE DESCRIPTION

- 6.1 Electrify machine, red light bright, buzzer BI---long voice, meantime green light bright
- 6.2 Read card correct, buzzer BI, green light bright, then green light glint until the card leave
- 6.3 Press“#”key, enter system password, yellow light glint, password correct, enter system function to choose estate
- 6.4 Estate of entering system through Keyboard operate
 - a Enter system, green light bright
 - b Without any operate in 15 seconds, exit system automatically. Press “ESC” key, return to before level
 - c Press “#”key, yellow light glint, waiting for enter data, press “#” to finish
 - d Enter corresponding function, yellow light bright
 - e Enter corresponding function, if the data is error, press “ESC”, return to menu
 - f Enter corresponding function, if operate success, the buzzer BI, if error, the buzzer BI-BI-BI
- 6.5 Communicate Estate
 - a If operate success, buzzer BI, meantime return data of F8
 - b If operate fail, buzzer BI- BI- BI, meantime return data of A5

7. KEYBOARD OPERATE DESCRIPTION

Remark: the “#”key is “ENT” in keyboard

- 7.1 Enter System
 - #xxxx# xxxx is password, original password is 1234, after enter system, green light bright.
- 7.2 Set ID Address of Access Control Reader
 - Choose Function: #01# Set ID: #xx# xx is ID address (from01~99)
- 7.3 Set System Password of Access Control Reader
 - Choose Function: #02# Set password: #xxxx# xxxx is new password for Access Control Reader