

CL7206C2 Four- Port Fixed RFID Reader User Manual (V1.0)

Shenzhen Clou IOT Technologies Co., Ltd



Welcome to be user of CLOU RFID products. Thanks for choosing CLOU's Four-Port Fixed RFID Reader CL7206C2. We believe our device will bring convenience for your work.



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1. Technical Specification

1.1 Product Features

CL7206C is a high performance four antenna port fixed UHF RFID reader and writer; support ISO18000-6C/6B protocols. The work frequency includes China standard dual frequency 920MHz ~ 925MHz and 840MHz~845MHz, FCC 902MHz ~ 928MHz and ETSI 865MHz ~ 868MHz.

Output power from 0 ~ 33dBm optional, with long identification distance, fast reading speed, high accurate rate, strong anti-interference ability, good protection performance and easy installation

1.2 Main function and technical features

1.2.1 Main function

- •Protocol: support ISO18000-6C/6B standard
- Built-in LINUX operating system
- •Multiple communication port (Ethernet, RS232, RS485, USB)
- •Support tag data filtering
- •Support RSSI: the intensity of the perceived signal
- •Adjustable RF output power
- •Optional working mode: constant frequency / frequency hopping
- •Supports antenna detection function
- •Supports online and remote upgrade
- ●I/O interface: 4 port opt coupler input, 4 port relay output and Weigand output

- 1.2.2 Technical parameter
- •Working frequency: GB 920MHz~925MHz, GB 840MHz~845MHz,

FCC 902MHz~928MHz, ETSI 865MHz~868MHz

- Output power (port): 33dBm + 1dB (MAX)
- •Power adjustment: 1 dB step-by-step
- •Reading distance: 0 ~8meters (depending on tags, antennas and environment)
- •Channel bandwidth: <200 KHz
- •RS232 serial communication rate: 115200bps (default), 19200 bps, 9600bps
- •RS485 interface communication rate: 115200bps (default), 19200 bps, 9600bps
- •Support: Weigand 26, 34, 66 interfaces
- •Power supply: 30V ~ 10V (power capacity is not less than 60W)
- ●Power adapter: AC input 100V ~ 50Hz, 240V ~ 60Hz
- •DC output: 24V/2.5A
- •High protection grade: IP54

1.2.3 Operational Environment

- ●Working environment: -20°C~+70°C
- ●Relative Humidity: 5%RH~90%RH (+25℃)

2. Sketch map

2.1 Physical construction

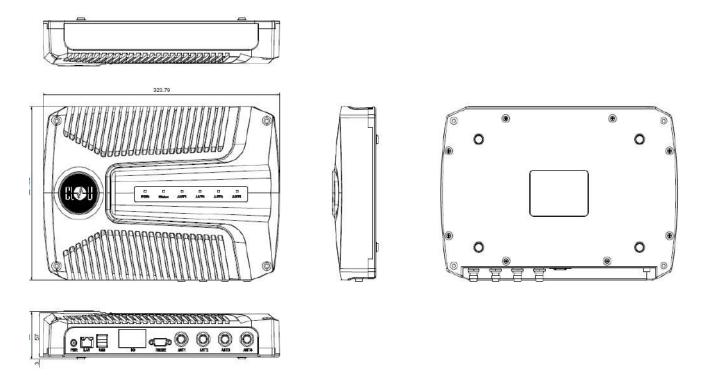


Image 2-1 Structure diagram of CL7206C2

Volume of four-port fixed rfid reader CL7206C2:

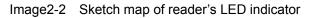
324mm*225mm*62mm (accessories excluded)

2.2 Weight

About 2.6kg (accessories excluded)

2.3 Illustration of LED display





LED indicator panel describe as below Form 2-1:

LED Mark NO.	Mark NO.	Status description
ANT1	Antenna 1 indicator	Indicates antenna 1 is working
ANT2	Antenna 2 indicator	Indicates antenna 2 is working
ANT3	Antenna 3 indicator	Indicates antenna 3 is working
ANT4	Antenna 4 indicator	Indicates antenna 4 is working
Status	Status indicator	Flashing indicates recognition to tags
POWER	Power indicator	Keep bright indicates power supply working normally

Form 2-1 LED indicator description

2.4 Sketch map of interfaces

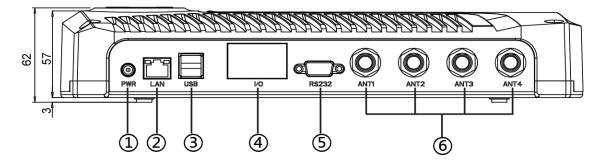


Image 2-3 Sketch map of reader's I/O and communication interface

2.4.1 Interface description:

- 1 power interface
- 2 network communication interface
- 3 USB interface
- 4 I/O interface
- 5 RS232 communication interface
- 6 Antenna interface (4 TNC connectors)
- 2.4.2 Sketch map of I/O interface

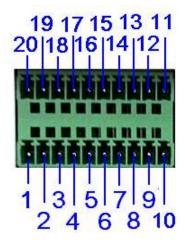


Image 2-4 Sketch map of I/O control interface

I/O control signal define as follow form 2-3

Aviation pin	description of pin	pin definitions
1	Relay 1 output port	OUT_R1
2	Relay 2 output port	OUT_R2
3	Relay 3 output port	OUT_R3
4	Relay 4 output port	OUT_R4
5	optocoupler 1 external signal input positive	IO_INPUT1
6	optocoupler 3 external signal input positive	IO_INPUT3
7	optocoupler external signal input negative	IO_GND
8	Weigand output signal 0	Wiegand_DATA0
9	Weigand output signal 1	Wiegand_DATA1
10	ground	GND
11	ground	GND
12	RS485-B signal	RS485-B
13	RS485-A signal	RS485-A
14	ground	GND

Form 2-3 I/O control signal definitions

15	optocoupler 4 external signal input positive	IO_INPUT4
16	optocoupler 2 external signal input positive	IO_INPUT2
17	Relay 4 output port	OUT_L4
18	Relay 3 output port	OUT_L3
19	Relay 2 output port	OUT_L2
20	Relay 1 output port	OUT_L1

2.4.3 Schematic diagram of USB interface

USB interface application:

- 1: Application software online upgrade (as shown in figure 2-5 "USB interface")
- 2: USB communications, serial port and network communication all in one (as shown in figure 2-5 USB

communication interface")



Image 2-5 schematic diagram of usb communication port

2.4.4 Description of feeder line(optional)



Image 2-6 schematic diagram of feeder line

RF cable TNC connector connect with reader antenna TNC connector, RF cable SMA connector connect

with external circular polarization antennas SMA connector, cable maximum length is 5m, impedance 50Q,

insertion loss is less than 2dB, or you also can choose a high performance cable, appropriate increase in length, insertion loss is less than 2dB.

Note: If Ultra long RF cable or the cable joint is not contacted well, may cause performance deterioration on the read and write because of the emission signal and the received echo signal's attenuation.

2.4.5 Network application connection diagram

Network interface used for long-distance high-speed connection (less than 80 m), can be connected with the switcher or router through the network cable, or directly connected with the PC network interface, as shown in figure 2-7:

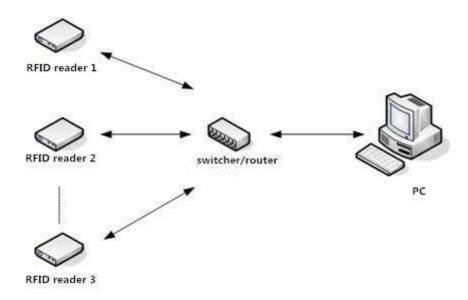


Image 2-7 Network application connection diagram

3. Installation instructions

3.1 Notes

To ensure the normal and stable operation of the device and your personal property and safety, please carefully read the following notes before install CL7206C reader and writer:

1. Firstly, check whether the power socket is connected to the ground, and to see whether the local power supply voltage is in accordance with the applicable voltage range of the reader;

2. Check the device and the external connection if is closely connected;

3. Pay attention to the type selection and the length limit of the cable and the serial line:

- •Cable connect directly, no longer than 80 meters
- •Serial line connect directly, no longer than 10 meters

4. When installing several readers, the antenna position and the antenna spacing should be appropriate to avoid interference with each other.

3.2 Installation conditions

Before installing the reader, please carefully check if the product is in good condition, the accessories are complete or not, if there is any damage, please contact the supplier.

3.3 Device connection

3.3.1 Connect power adapter

Insert the power cord into the AC power supply socket and plug another end into the power connector of the device and tighten.

Turn on and wait about 20 seconds, the system initialization process is completed and is standby state.

3.3.2 Connect external antenna and RF cable

The device built with four TNC coaxial cable connector for connecting an external antenna, select low consumption RF cable, connectors should be tightened (Ensure to be waterproof when install outdoors);

The reader antenna angle or corner to adjust to the best position through the actual test according to the specific application,.

3.3.3 PC connection

The device provides special adapter cable, including interface of network, serial and power;

RS232 interface is for short distance communication (less than 10m), through the DB9 connector and the

PC serial port connection to realize the communication of PC and the device.

RJ45 network port used for long distance communication (less than 80m), connect PC with extend cable.

3.4 Device installation

The reading and writing range of the reader depends on the onsite application, the tilt angle of the antenna is adjusted to achieve the best reading and writing performance.

3.5 Acceptance

Mainly from two aspects of acceptance criteria: structure and performance.

3.5.1 Acceptance of structure

- •If reader is fixed firmly, without loose;
- If the cable connected firmly ;
- If the screws are tighten

3.5.2 Performance acceptance

- If the reader is working properly;
- •If the read and write range is reasonable.

4. Operating Instruction

4.1 Introduction of Demo software

The demo software mainly carries on system control, communication mode selection, parameter setting and searching, read and write tags and data presentation and so on.

Before using the demon software, please check if the connection of the reader hardware is completed,

mainly ensure the following tips:

- 1, If the reader and computer serial port (network or RS485) is connected correctly
- 2, If the antenna ports have been connected to the antenna (ANT, ANT1 2, ANT 3, ANT totally four ports)
- 3, If the reader and writer start up (hear "drop" buzzer sound).

4.2 Demo software application environment

• The software environment

Windows 2000 Service Pack 3、 Windows Server 2003、Windows XP Service Pack 2、Windows 7 system

• The hardware environment

P4/1.7GHz above PC, 512M or more memory, 40GB hard drive

4.3 Demo software version

♦ V1.0.1

4.4 Demo software installation

1. Copy the software to the PC, open the software installation package, double click "setup" application, follow the installation guide.

- 2. Click the next step, and select the installation path, click next, and the software will begin to install.
- 3. Click the "Install", and software installation progress takes about 1 mins.
- 4. After the progress of the software is finished, click the "finish" button to complete the installation.

4.5 Demo software operation

4.5.1 Connect the reader

All functions can be operated only after successful connection.

4.5.1.1 Serial communication connection

Double click the icon is to start the Demo software, the main interface of the toolbar icons are gray means reader is not connected, in the 'connecting reader' option list select communication mode 'serial connection', 'connection parameters' select 'COM?' (choose PC serial number), communication rate select 115200 (default), click OK button, as shown in image 4-6.

Clou RFID Reader VI.0.0 Connect (C) Configuration (O) Tools (T) Helper (H	= 8 C ©	
7ype EFC TID UzerData RezerveData	TotalCount ANTI ANT2 RSSI	Resd/Write Control: ANTI ANTI ANTI ANTS ANTA Resd Mode: Yhile Single
	Connect Reader:	Tag Type: • 60 74g
		TagCount: 0 ReadCount: 0
		Speed: 0 ReadTime: 0 GPI:
		UF 1: CPU(%): 0 Cache: 0 NowConn:

Image 4-6 Serial communication connection

If the connection is successful, all the icons in the toolbar are illuminated, as shown in image 4-7, means

the serial communication connection is successful.

Clou RFID Reader VI. 0. 0 Connect (C) Configuration (Q) Tools ([) Helper (H)	
🚨 🔁 🖸 🕼 🕼 🖉 😑 🚱 🚱	
Type EFC TIL UserData ReserveData TotalCount ANTI ANT2 RSSI	Read/Yrite Control: ANTI ANT2 Read Mode; While Single Tag Type: @ 6C Tag 6B Tag
	ReadMessage: TagCount: 0 ReadCount: 0 Speed: 0 ReadTime: 0 GPI: • • • •

Imag4-7 serial port communication connect successful

4.5.1.2 Network port communication connection

Network port used for long distance connection (within 80 m), connect to the router through cable and switcher, or connected with the PC network port directly. Select the communication mode "TCP connection" in the "connect reader" option list, "connect parameter" input reader IP (default 192.168.1.116), enter the communication port number (default 9090), and click OK button, as shown in image 4-8

Connect Reader:		
ConnectType:	TCP -	
Parameters:	192, 168, 1, 116:9090	
		ОК

Image 4-8 Network port communication connection

The device has been written IP address 192.168.1.116 as default. If you forget or need to modify, using serial connection "connection" after connect successfully, then you can found the current IP address through

select "settings" > "senior" > "configuration", set up the IP address in "Network port settings" when "configuration" dialog pops up.

Note: The IP address of the reader can't be repeated. Use the Ping command to test whether the network is connected on PC.

口配置		息 恢复出厂设置 测试指令			
口设置:			律写题时间:		
	115200 bps 💌	查词 配置	2015.03.19 10:46:34	查询	RIR
口设置:			服务器/客户端模式:		
1	192,168,1,116		€ Server 9090		
推销;	255.255.255.0	250 Fill	Client 192.168.1.1	9090	
NX:	192.168.1.1			查词	R2
AC配置:			85485配管:		
	6C-EC-41-FE-68-82	查词 配置	15485排社: 1	查询	配置

Image 4-4 Settings of reader

4.5.1.3 RS485 communication connection

Select the communication mode in the "connect to the reader" option "485 connection (serial port)", "connect parameter" select "COM?" (select PC serial number), communication rate select "115200", enter the RS485 address, then click OK, as shown in image 4-10.

Connect Reader:	
ConnectType:	RS-485
Parameters:	COM5 - 115200 - 1
	OK

Image 4-10 485 communication connection

RS485 address defaults to 1

RS485 address range 1~255

Note: Click the button C after changing the configuration

4.5.1.4 USB communication connection

Select the communication mode "serial port" in the "connect reader" option list, "connect parameter" select "COM?" (the USB serial number detected by PC), the communication rate is selected "115200" (the default value), and click OK button, as shown in image 4-11.

Connect Reader:		
ConnectType:	Serial 🔻	
Parameters:	COM5 ▼ 115200 ▼	
		OK

Image 4-11 USB communication connection

Click the button the data display area will show as image 4-12

inect (C)		s (T) Helper (H)	C 🔇	3		
Type	EPC	TID	UserData	ReserveData	TotalCount 🔺	Read/Write Control:
6C	300833B2DDD9014000000000	E2801105200046DD660B002F			6	ANT1 ANT2 ANT3 AN
6C	1234	E280110520004513660F002F			6	🗹 ANT1 🔄 ANT2 🔄 ANT3 🔄 AN
6C	300833B2DDD9014000000000	E2801105200045456612002F			5	Read Mode:
6C	300833B2DDD9014000000000	E280110520004512660F002F			5 =	💿 While 🔷 Single
6C	300833B2DDD9014000000000	E2801105200046436612002F			6	Tag Type:
6C	300833B2DDD9014000000000	E2801105200046CA660C002F			5	
6C	300833B2DDD9014000000000	E2801105200046596611002F			6	💿 6C Tag 📉 6B Tag
6C	300833B2DDD9014000000000	E28011052000454E6612002F			6	
6C	300833B2DDD901400000000	E28011052000451E660D002F			6	
6C	300833B2DDD9014000000000	E28011052000464C660C002F			6	ReadMessage:
6C	300833B2DDD9014000000000	E28011052000454D660E002F			6	TagCount: 54
6C	300833B2DDD9014000000000	E28011052000451C660D002F			6	Tageount: 54
6C	300833B2DDD9014000000000	E280110520004651660F002F			6	ReadCount: 177
6C	300833B2DDD9014000000000	E28011052000475D660D002F			6	
6C	300833B2DDD9014000000000	E28011052000484C661D002F			6	Speed: 21 T/S
6C	300833B2DDD901400000000	E2801105200047096612002F			6	
6C	300833B2DDD9014000000000	E2801105200045516617002F			5	ReadTime: 10 S
6C	300833B2DDD9014000000000	E280110520004541660C002F			6	
6C	300833B2DDD9014000000000	E28011052000464D660C002F			6	GPI: 🗨 🗨 🔍
6C	300833B2DDD9014000000000	E28011052000474C6614002F			5	
6C	300833B2DDD9014000000000	E2801105200047926611002F			2 *	

Image 4-12 data display area parameter meanings

Type: label type: 6C, 6B two types

EPC: EPC data of tags, can be read and write.

TID: the TID data of the label, the only logo, read only

User Data: user data area, can be read and write.

Reserve Data: reserved area data, store the password data, etc.

Total Count: total number of tags

ANT1: the reading times of NO.1 antenna

ANT2: the reading times of NO.2 antenna

ANT3: the reading times of NO.3 antenna

ANT4: the reading times of NO.4 antenna

RSSI: Signal Intensity

4.5.2.1 Read EPC

Click the button end the data display area will display the current read EPC data

EPC display as hexadecimal character string, use the word as length unit (1 word = 2 bytes = 4 hexadecimal

character)

If you want to read the EPC data of the custom length, please refer to chapter 4.5.2.3 custom read

4.5.2.2 Read TID

Click the button ⁽¹⁾, the data display area will display the current read EPC and TID data

TID data display as hexadecimal character string, use the word as length unit (1 word = 2 bytes = 4

hexadecimal character).

TID length, the default is 6 words.

If you want to read the TID data of the custom length, please refer to chapter 4.5.2.3 custom read

4.5.2.3 Custom read

Click the button , pop-up dialog box, as shown in Image 4-13

Select "6C tag configuration"

Matching read, you can matching read through known EPC data or TID data of tags.

Read TID, select to read the tag TID data, the read mode default as "adaptation", use the word as length unit.

Read the user area, select to read the tag user area data, use the word as the starting address and read

length unit

Read the reserved area, select to read the tag retains data, use the word as the starting address and read length unit

Edit Custo	m Command:					
6C Tag	6B Tag					
	FilterRead	Туре:	Mismatching 👻	StartAdd:	0	
	F	.lterData (Hex	0000			
	🗹 ReadTID	ReadMode:	Adaptive 👻	ReadLength:	6	
4	🗹 ReadUserData	StærtÅdd:	0	ReadLength:	6	/
	ReadReserve	StartAdd:	0	ReadLength:	6	_
(ОК]

Image 4-13 6C Tag custom configurations

Select the 6B tag configuration, and pop up dialog box as shown in image 4-14

Can choose to read TID data or user data

Can matching read TID data.

Tip: Customer who not familiar with the label agreement, please ignore this feature

Edit Custon	n Command:					
6C Tag	6B Tag					
		ReadData:	6B TID &	t UserData 🔻		
				00		
		UserDataStar		00		
		UserDataLen;	gth:	0A		
		Filter TID:	00			
					OK	

Image 4-13 6B Tag custom configurations

4.5.2.4 Stop read

Click button stop all read and write operations.

4.5.3 Write data

4.5.3.1 Write EPC data

Click button and pop up dialog box as shown in image 4-15:

÷C	ect (C)	· -	s 🕕 Helper (H)	0 0	
	Туре	EPC	TID	UserData	ReserveData TotalCount ANTI _ Read/Write Control:
	6C	E20090550405013217405FD6	E20034120135F300022E5FD6		
1	БC	E2009055040 12917405FE2	E2003412012DF300022E5FE2		Write EPC
	6C	E20090550.05012517405FF2	E2003412013AF300022E5FF2		Now SelectTag:
l	BC	E200905004070186258010B6	E2003412012DF300023010B6		
1	6C	E20090550405013117405FDA	E2003412013EF300022E5FDA		EPC (Hex): E20090550405013217405FD6
1	6C	E2009055405019417405EDE	E20034120132F300022E5EDE		TID (Hex): E20034120135F300022E5FD6
1	6C	E20090550405015917305F69	E2003412012CF300022E5F69		
1	BC	E2009055040702362570117D	E2003412013BF3000230117D		Password: 000000 EPC Length (Word): 0
1	6C	E2009055040701712580107A	E20034120136F3000230107A		
1	BC	E200905504070112256013A0	E2003412012DF300023013A0		
1	6C	E200905504070199258010EA	E2003412012DF300023010EA		EFC Data(Hex): OFOF
1	6C	E2009055040500981730605D	E20034120132F300022E605D		
1	6C	E20090550407020525801102	E20034120133F30002301102		OK
1	6C	E200905504070189258010C2	E2003412012CF300023010C2		
Ī	6C	E20090550407016925801072	E20034120135F30002301072		
1	6C	E20090550407023425701175	E2003412013CF30002301175		1 1
1	6C	E200905504070167256012C4	E2003412012CF300023012C4		1 I ReadTime: 1 S
1	6C	E20090550407018325601284	E20034120138F30002301284		3 1 1
1	BC	E20090550405027617405D96	E20034120132F300022E5D96		1 1 GPI: • • •
	5C	E200905504070186257010B5	E2003412012DF300023010B5		

Image 4-15 write EPC data

Select a label data (contains TID information) has been read, fill in the EPC data (16 hex string), click "OK".

and pop up dialog box as shown in image 4-16: Click button 🊰 Clou RFID Reader V1.0.0 Connect (C) Configuration (O) Tools (<u>T</u>) Helper (H) user data ERC 3 Read/Write Control: Type EPC TID UserData TotalCount ANT1 ReserveData 6C E20090550405012917405EE2 E2003412012DF300022E5FE2 Write UserData: Now Select Tag: 6C E20090550405012517405FF2 E2003412013AF300022E5FF2 60 E200905504070186258010B6 E2003412012DF300023010B6 EPC (Hex): E20090550405013217405FD6 6C E20090550405013117405FDA E2003412013EF300022E5FDA TID (Hex): E20034120135F300022E5FD6 6C E20090550405019417405EDE E20034120132F300022E5EDE 6C E20090550405015917305F69 E2003412012CF300022E5F69 Data Length (Word): 0 Password: 6C E2009055040702362570117D E2003412013BF3000230117D 6C E2009055040701712580107A E20034120136F3000230107A User Data(Hex): FOR 6C E200905504070112256013A0 E2003412012DF300023013A0 6C E200905504070199258010EA E2003412012DF300023010EA 6C E2009055040500981730605D E20034120132F300022E605D OK 6C E20090550407020525801102 E20034120133F30002301102 6C E200905504070189258010C2 E2003412012CF300023010C2 Speed: 56 T/S 6C E20090550407016925801072 E20034120135F30002301072 6C E20090550407023425701175 E2003412013CF30002301175 1 ReadTime: 1 S 6C E200905504070167256012C4 E2003412012CF300023012C4 1 1 6C E20090550407018325601284 E20034120138F30002301284 1 GPT. E20090550405027617405D96 E20034120132F300022E5D96 6C 1 1 60 £200905504070186257010B5 E2003412012DF300023010B5 1 1 CPU(%): 31.06% Cache: 0 NowConn: COM5:115200 -

4.5.3.2 Write user data

Image 4-16 write user data

Select a label data (contains TID information)has been read, fill in the user data (16 hex string), click "OK".

4.5.3.3 Custom tag action

<mark> 88</mark> c	lou RFID	Reader V	1.0.0	
Co	nnect (<u>C</u>)	Configu	ration (Q) Tools (I) Helper (H)	
	Type	EPC	IID USEYDATA Reservenata IotalLount ANII	tro1:
►	60		405013217405FD6 E20034120135F300022E5FD6 1 1 1	ANT2 📃 ANT3
	6C		405012517405FF2 E2003412013AF300022E5FF2 1 1 1	
		E20090550	COM5:115200 6CTag (Write/Lock/Destroy) TagMatch:	
	6C	E20090550	a agina cui -	
	60	E20090550	MatchType: NoMatch - Password(Hex):	
	-SC	E20090550		
	6C 6C	E20090550	TagData: EPC: E20090550405013217405FD6 TID: E20034120135F300022E5FD6	
	6C	E20090550 E20090550		
	6C	E20090550	VserData: 0000	
	6C	E20090550	Write Lock Destroy	
	6C	E20090550	Write Tag:	
	6C	E20090550	anne isg.	
	6C	00000000	WritePos: EFC 🗸 Start ADD (Hex): 0001 FC 🗸	
	6C	E20090550	Write	
	6C	E20090550	BlockWrite Write(Hex): 00000000	J.
	6C	E20090550		
	6C	E20090550		
٠ _				
Read Read	er: COM5:1 er: COM5:1	15200Ser 15200Rec 15200Ser 15200Rec		

Image 4-17 Custom tag action

- 1. Select a tag data that has been read;
- 2. Click the "custom operation" button;
- 3. Take detailed action to write / lock / destroy tag according to the reader protocol

4.5.4 TCP server / client mode

Select configuration on the main demo interface > "read and write configuration >" TCP server / client

mode ", pop-up dialog box, as shown in Image 4-18:

Type BPC	TID	VzerData Rezerv	eData TotalCount	KALL 1	e Control:
	Re	nder TCF Server/Client Set	ting		Wode: While OSingle
		© Sarvert 90 Oliant: 19	90		Туре: ВС Тад — 68 Тад
		ht-			Count: 31
	6		Search	Set	Count: 24 Speed: 24 T/S
				R	eadTime: 0 S

Image 4-18 Mode setting

When the reader is configured as a "server" mode, the connection is initiated by PC; when the reader set

as a "client" mode, it will connect to the PC side automatically.

4.5.5 Antenna enable configuration

Select" configuration" on the DEMO main interface-- > "senior"-- > "reader configuration ", then pop-up

C0∎16:115200配置	
RFID配置 读写器设置 GPIO/韦根 恢复出厂设置 测试指令	
_ 配置IFC基带参数:	
EPC基带速率: 255 AUTO 🔽	GB, 920 [°] 925MHz ▼ 查询 设置
Session: 1 🔽 Q值: 4 多标签 🔽	_工作频率:
标签搜索方式: 2 双面搜索 ▼	频率自动:自动
查询 配置	频率列表: 921.875, 92
配置天线功率:	天线使能:
■ ANT1 30 V ■ ANT3 30 V	☑ ANT1 ☑ ANT3 查询 配置
ANT2 30 V ANT4 30 V EV9 HLE	ANT2 ANT4
配置读写器自动空闲模式:	配置标签上传参数:
关闭 ✔ 空闲时间: 0 ×10ms 查询 配置	过滤时间: 0 ×10ms 查询 配置
	RSSI阀值: 0

dialog box, as shown in image 4-19.

Image 4-19 Antenna enable configuration

Select all antenna enable configuration, click the "configuration", pop up dialog box, click "OK" means

configure succeeds. If the antenna enable is not selected, when select the corresponding reader on the DEMO main interface, will pop up dialogue box as shown in image 4-20.



Image 4-20 Antenna selection

4.5.6 Base band parameter configuration

Select "configuration" on the DEMO main interface --> "senior" --> "reader", then pop-up dialog box, as

shown in image 4-21.

C0∎16:115200配置	= ×
RFID配置 读写器设置 GPIO/韦根 恢复出厂设置 测试指令	
配置EPC基带参数: EPC基带痉挛: 255 AUTO	工作频段: GB, 920 [~] 925MHz
Session: 1 ♀ ♀ 标签搜索方式: 2 双面搜索 ▼ 查询 配置	<u> 工作频率</u> : 频率自动: 自动 ダ 频率列表: 921.875, 92
記置天线功率: ANT1 30 ♥ ANT3 30 ♥ ANT2 30 ♥ ANT4 30 ♥ 査询 配置	- 天线使能:
記置读写器自动空闲模式:	配置标签上传参数: 过滤时间: 0 ×10ms RSSI阀值: 0 查询 配置

Image 4-21 Base band parameter configuration

Changing the base band parameter configuration can change the actual effect of the read and write (can be reasonably configured according to the application scenarios, but it needs to be operated under the guidance of our engineers).

EPC base band rate provides five options: Tair=25us, FM0, LHF=40KHz, dense reading mode;

Tair=25us, Miller4, LHF=300KHz; fast reading mode; 255/OUTO.

Session four choices: 0; 1; 2; 3.

Q values provide sixteen options: 0/ single label; 1; 2; 3; 4/ multi label; 5; 6; 7; 8; 9; 10; 14; 11; 12; 13; 15.

There are three options for searching tags: one sided search; inventory only with Flag B; double search.

4.5.7 Antenna port power setting

Select "configuration" on the DEMO main interface --> "senior" --> "reader", pop-up dialog box, as shown

in image 4-22.

CO∎16:115200配置	
RFID配置 读写器设置 GPIO/韦根 恢复出厂设置 测试指令	
配置EPC基带参数:	「工作频段:
EPC基带速率: 255 AUTO 🗸	GB, 920 [~] 925MHz ▼ 查询 设置
Session: 1 💌 Q值: 4 多标签 💙	
标签搜索方式: 2│双面搜索	频率自动: 自动 💙 查询 配置
查询 配置	频率列表: 921.875, 92 🗸
配置天线功率:	
ANTI SU V ANTI 30 V	✓ ANT1 ✓ ANT3 查询 配置
29 ▲ ANT2 30 ▲ ANT4 30 ● 查询 配置	ANT2 ANT4
132 配置读写器33 1模式:	配置标签上传参数:
关闭 ▼ 35 × 0 × 10ms 查询 配置	过滤时间: 0 ×10ms 查询 配置
	RSSI阀值: 0

Image 4-22 Antenna port power setting

Select the corresponding antenna port (external antenna connected), select the appropriate power values from the power list, click Configure, pop up the configuration of the success of the dialog box, click OK to complete power configuration.

4.5.8 Clock setting

Select "configuration" on the DEMO main interface --> "senior" --> "reader configuration", then pop-up dialog box, as shown in image 4-23. The current time of the reader can be check in the area of the "reader time". If you need to modify the reader time, modify the "reader time" then click "configuration" button, pop-up dialog box then click OK.

CO E 15:1152	00 配置	
RFID配置	读写器设置 GPIO/韦根 恢复出厂设置 测试指令	
_串口设置:	115200 bps 💙 查询 配置	读写器时间: 2015.03.18 15:10:47 查询 配置
一网口设置:		服务器/客户端模式:
IP:	192.168.1.116	Server 9090
掩码:	255.255.255.0 查询 配置	Client 192.168.1.1 9090
网关:	192.168.1.1	查询 配置
-MAC配置:-		RS485配置:
	6C-EC-A1-FE-6B-B2 查询 配置	RS485地址: 1 查询 配置

Image 4-23 Clock display setting

4.5.9 Frequency Hopping management

Click "configuration" on the main interface > RFID configuration > "hopping management", pop-up

frequency hopping management dialog box, as shown in image 4-24

Frequency Ho	pping		
WorkingBand:	GB, 920~925MHz	▼ SetBand Type:	Appoint 🗸
		Frequency List:	Appoint Auto
920, 825 920, 875 921, 125 921, 375 921, 625 921, 875 922, 125 922, 125 922, 625 922, 875 922, 875 923, 125		920.625,920.875,921.125,92 21.875,922.125,922.375,922 3.125,923.375,923.625,923 .375	. 625, 922. 875, 92
			Set

Imag 4-24 Frequency Hopping management

Select "CMII, 920-925MHz" (see Image 4-25) in the "working band" drop-down list, click the "Settings", select single frequency points from the left frequency list box(see Image 4-24) then click the "D" button, right into the list box, and then click the "configuration" to confirm; If you want to select the full band frequency hopping just click all the frequency points will show on the right side of the list box, click the "configuration" to confirm. If you click (all frequency points on the right side of the list box will be cleared.

GB, 920*925MHz ist: GB, 840*845MHz .ist: 920.625 FCC, 902*928MHz 920.875 J22.875, 921.125, 921.375, 921.625, 9 921.125 .3125, 922.375, 922.625, 922.875, 92 921.375 .375
921.625 921.875 922.125 922.375 922.625 922.875 923.125 ▼

Image 4-25 Frequency Band selection

Note: The purpose of setting up the "automatic" is to avoid the interference of the external signal and select the fast frequency hopping. The default configuration for general application is automatically (as shown red mark dropdown list in image 4-24).

4.5.10 Label filtering

Select "configuration" on the main interface > "RFID configuration" > "label filter", then pop-up dialog box, as shown in image 4-26:

TagFilter			
Time Filter:	0 ×10ms	RSSI Filter: 0	
		Search	Set

Image 4-26 label filtering

Filtering time: indicates that the same label content within a specified period of time within a read card

instruction is only uploaded once, 0~65535, and time units: 10ms.

RSSI threshold: When label RSSI value small than the threshold value, the label data will not be uploaded

and discarded.

4.5.11 Auto idle configuration

Select "configuration" on the main interface > "RFID configuration" > "auto idle ", then pop-up dialog box,

as shown in image 4-27:

AutoFree							Ţ X
	ON/OFF:	OFF	•	FreeTime:	0	×10ms	
					Search		Set

Image 4-27 Auto idle configuration

Auto idle mode means when the reader continuous reading tags, all using antenna didn't identify the tags for three times continuously ,then the reader automatically enter a period of idle state to save power consumption, the reader re-enter the card reader automatically after idle time.

4.5.12 GPI/O configuration

GPI/O control to provide the query and set up the I/O port state, control the function of the I/O device.

GPI configuration

Select "configuration "on the main interface > "GPI/O configuration" > "GPI configuration "then pop-up dialog

box, as shown in image 4-28:

GPI Setting	
- GPI Setting:	
Port: 😥 🕶 Start Flag: Trigger off 👻	
Execution: Single ANT - EPC 🗸 🧷	
Stop Flag: Positive edge 👻	
	_
Search Set	

Imag 4-28 GPI configuration

- Check: check the various port trigger parameters
- Configuration: select the port need to set, click button to execute the settings after modify
- Trigger start condition: select the mode from the drop-down list
- Trigger execution instruction: select the mode from the drop-down list
- Trigger stop condition: select the mode from the drop-down list
- Description: when the start condition is satisfied, the reader will perform the configuration of the reader/

writer command.

GPO configuration

Select "configuration" on the main interface > "GPI/O configuration" > " GPO configuration "then pop-up

dialog box, as shown in image 4-29:

GPO Setting		
Set GPO:		
	✓ 1 Low level ▼	
	2 Low level High level	
		Set

Image 4-29 GPO configuration

CL7206C reader only supports two GPO outputs, that is "1" and "2".

Select the high / low level, click this configuration to execute settings after modify.

4.5.13 Advanced configuration

Weigand configuration

Select "configuration" on the main interface > "GPI/O configuration" > "Weigand "then pop-up dialog box, as shown in image 4-30:

「韦根配置		
	韦根参数设置:	
	通信开关: 关闭 ▼ 通信格式: 韦根26 ▼	
	传输数据内容: 指定传输IPC末尾数据 →	
	<u> </u> 査询 配置	

Image 4-30 Weigand configuration

In the Weigand parameter settings area, set up the "communication switch" for the "open" state, and select the corresponding "communication format" and "transmission data content", click on the "configuration" to determine.

Weigand port Parameter configuration: includes "Weigand 26, "Weigand 34" and "Weigand 66" models.

Weigand 26: TID or EPC data reported from the end of the Weigand port is valid for 3 bytes.

Weigand 34: TID or EPC data reported from the end of the Weigand port is valid for 4 bytes.

Weigand 66: TID data reported from the end of the Weigand port is valid for 8 bytes.

Restore factory settings

Select "configuration" on the main interface > "restore factory settings" then pop-up dialog box, as shown in

image 4-31:



Image 4-31 restore factory settings

When connected to the reader in any form, click OK button, and all settings of the reader will be restored to

the factory setting.

4.5.14 Tools

Data export

Select "tools" on the main interface > "data export" > "form (*. XLS), in the pop-up dialog box, as shown in

image 4-32, select the required export file save path.

另存为						? 🛛
保存在 (I):	SYSTEM (C:		~	00	• 🗉 🔁	
 表最近的文档 夏面 夏面 ジ前の文档 ジ前の支档 ジ前の电脑 ジョの ジ	Documents au Program File SoDA TClog Temp tmp WINDOWS	방송 뉴너는 사망은 것이 있다. 것이 없는				
	文件名 (M):	clou-exportTags			- (保存(2)
	保存类型 (I):	Excel文件			• (取消

Image 4-32 Data export

Read the tag data to support data export, export format can be.Csv (comma file) and.Xls (Excel).

Software upgrade

The reader support for online upgrade, software upgrades support the baseband software upgrade (the

underlying software) and application software upgrades (system software applications). Select "tools" on the main interface > "software upgrade" > "software", the pop-up dialog box, as shown in image 4-33:

17月 ¥1.0.1 単成型 工具工 税助理 こ 税数 録録 ② 註目- ② ⑤ 談談 TID UserData Haserwaik TetalCount AJT1 AJT2 AJT3 AJT4	KSI读写控制:
庭用软件升级 升级全件: 开始升级	 ★881 ★882 ★883 ★883 ★885式: ● 御野子 ● 年次 新聖子型: ● 60 标签 ● 68 标签
0%	¥町信息: 标签总数:13 读取总次数:504 实时速率:70 T/S
	凌取时间:9 S GPI. ● ● ● ●

Image 4-33 Application software upgrade

To find the Bin upgrade file path in the upgrade file drop-down list, click 开始升级 the upgrade progress bar shows 100% that means the application software upgrade successfully, pop-up upgrade prompted success dialog box, click OK to restart the reader, as shown in image 4-34.

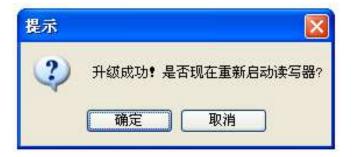


Image 4-34 Software upgrade successfully

The process of the application of the base band software is the same as that of the application software.

5. Common failures

5.1 Daily maintenance

The routine maintenance of CL7206C usage:

 \precsim To check whether the tightening of RF connector

 \ddagger To check if the screw fixed reader and antenna is loose

 \ddagger To check whether the RF cable joints appear outsourcing breaking the shielding layer

 $rac{1}{2}$ To check if the reader power line connection is reliable

5.2 Common failure analysis and solution

Power supply system failures:

Check whether the power adapter is normal, and the AC supply voltage is between 100V ~ 240V.

The panel indicator light failed when power on:

Check whether the communication is normal, please contact customer service if it's not normal.

The serial port unable to connect:

Check if the serial cable is not connected or connected unstable.

Check if the serial port connect baud rate of the reader is correct

Check if the selected COM port is right.

The network port cannot connect:

Factory set the default IP address: 192.168.1.116 when CL7206C reader device ex-factory, ensure the IP address of the PC and reader in the same network segment, such as "192.168.1.XXX" then you can connect to the reader, if you forget the IP address of the device, you can reset the reader's IP address through the serial port.

The reader can't read the tag

Check if the setting of antenna number is correct

Check if the label is damaged

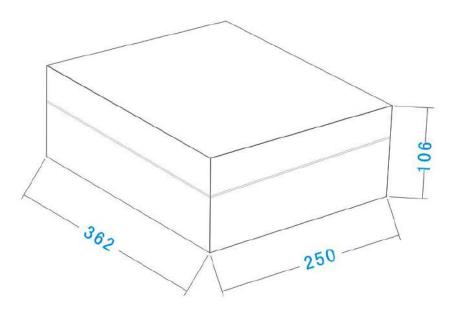
Check if the label is placed in the reader's valid reading and writing range.

Check if the electromagnetic interference between the reader and the other device.

For the problem users cannot solve, please contact customer service.

6. Packing accessories, transportation and storage

6.1 Package



Imag6-1 Carton box size

Carton box size: 362 mm×250 mm×106mm

6.2 Accessories

In order to facilitate the storage and transportation in near future, the packing box and the packing material should be kept properly after unpack.

Besides of the device in the box, accessories equipped with the reader are also included in, please check the product packing list to confirm whether the product and accessories are complete, if any discrepancies or damage, please contact with the after-sale service in time.

The specific list of accessories as shown in table 6-1

NO.	Name	Material Code	Qty	Unit	Remark
1	CL7206C four-port fixed reader		1	set	Included
2	Power adapter 24V/2.5A	2010900000324	1	pcs	Included
3	AC power cord	20350000000195	1	unit	Included
4	Network cable	20350000000188	1	unit	Included
5	RS232 blackcable	20351000000478	1	pcs	Included
6	USB cable	20351000000036	1	pcs	Included
7	9dBi circularly polarized antenna	20351000000035	4	pcs	Included
8	Feeder line SMA-KTNC-J 50ohm 3m	2035100000038	4	pcs	Included
9	Mounting screws M4*28	W01-104028-100	4	pcs	Included
10	Warranty card	20420000001651	1	pcs	Included
11	Certificate of approval	20420000001650	1	pcs	Included
12	CD	N10-010000-002	1	pcs	Included

6.3 Storage environment

CL7206C fixed reader should be stored in below conditions:

- ☆ Environment temperature : -40 $^\circ$ C ~ +85 $^\circ$ C
- ${\rm tr}$ Relative humidity : 5% RH ~ 95% RH

7. After-sale service

Letter to Customers

Since our aim is to continuously improve our products for better user experience, we may modify the product characteristics, composition and design of circuits without given notifications. Thus the real product may be not in accordance with this manual. Generally, we will provide timely amendments to this manual. If it's not provided timely, please consult our service department. Shenzhen Clou Electrical Technology Co., Ltd. Tel of Sales Dept: 0755-36901166-3302 Fax: 0755-26719679 Tel of Customer Service Dept: 0755-36901057

Fax: 0755-26719679

Guarantee card of Shenzhen Electrical Technology Co.,Ltd

Product Name		Model No.	
Product Code		Level	
Description of troubles			
User's name		Postcode	
Contact person	Contact no.		

Address of factory: Block 3 of CLOU Electronics Industrial Park, Baolong Industrial City, LonggangDistrict ,Shenzhen, Guangdong, China (Interchange of Baolong road and Qingfeng Road)Post code: 518057Customer service centre: 8009990986

Warranty Description: In order to offer users better service, our company provide warranty card with each device, please keep it to enjoy the service.

1, Products can replace free under conditions within one month after sale, in the precondition of normal

operation without repairing.

2, Free maintenance won't be given under the following circumstance:

- ① The damage of the terminal caused by high voltage of the power grid.
- ② The damage caused by misuse or operated improperly.
- ③ The damage caused by excessive vibration when user delivering.
- 3, The software of this product can be upgraded freely, users can be training in our company for free.
- 4, Will be charge appropriately if the user don't have a warranty card.
- 5, Users will need to fill out the warranty card for repair service, and sent back to CLOU.