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RFID Pedestal reader

CER510

User Manual

Revision:

Version	Author	Data	Remarks
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Hangzhou Century Co., Ltd.



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1. Overviews

CER510 is a cost-effective transparent RFID UHF Antenna. Ultra-thin design, perfect combination of transparentacrylic and ABS, stylish and beautiful appearance, cool and eye-catching lighting. Integrated high-gain antenna group.based on high-speed reader and control module, has high-speed reading label performance and good reading areacontrol ability. The product is suitable for retalil., books, archives, personnel attendance, warehousing and logisticsmanagement, etc.

1.1 Features

- Strong Group Reading capability, reading rate up to 99% in infrared trigger mode.
- Strong scalability, with 2-way input and 2-way output.
- ♦ Standard personnel access judgment.
- ♦ Stronger processing capabilities by integrated Linux system.
- ♦ Ultra-thin design, accurate coverage area without blind spots.

1.2 Specifications

- ♦ Built-in system: Linux
- ♦ Communication interface: RS-232(DB9)、RJ45
- ♦ Power supply: AC 220V+10%,47~63 Hz
- ♦ Operating Temperature: $-20^{\circ}C^{\circ}+60^{\circ}C$
- ♦ Storage Temperature: -30°C~+70°C
- ♦ RFID Power: Maximum 30dBm

2. Installation

2.1 Input power requirement

- All devices using 220VAC must have the same circuit of electricity from the distribution box, and meet the safety grounding requirements
- ♦ The mains power cord is never allowed to be tied to the output DC line, nor is itallowed to wrap the output DC line around the adapter body.

2.2 Installation position

- ♦ Ensure that the antenna is installed in a well ventilated area.
- ♦ Ensure a clean and dry environment.
- ♦ Pay attention to the installation height of the antenna to prevent water from



entering the antenna base.

- Ensure that there are no large metal objects around the antenna, such as metal door frames, cabinets, shopping carts, etc.
- ♦ Ensure that there are no labels stored around the antenna.
- ♦ Confirm that the power supply of the equipment is independent (not shared with other electromechanical equipment).
- ♦ Confirm that the power supply voltage of the host is normal.
- ♦ The labels must be kept 3 meters away from the antenna system.
- ♦ Check if there are metal frames, coiled cables, etc. around the device.

2.3 Installation steps

- ♦ Prepare construction and debugging tools.
- ♦ Check the power reserve and installation position, and try to keep the device adapter and cables as far away from other high-power devices as possible.
- Check if there are other equipment around the site, such as spotlights, LED screens, elevators, and other high-power equipment, and try to avoid installing such equipment as much as possible.
- ♦ Before fixing the antenna, connect the antenna power supply, conduct a test first, and then fix it after meeting the installation requirements.
- ♦ After installation is completed, test again to confirm if the equipment can meet customer needs

2.4 Installation scheme

♦ The device host can choose one or two sided antenna. Supports singlechannel and multi-channel installation.





2.5 Hardware



- (1) UHF RFID antenna
- (2) Infrared
- (3) Module machine control board
- (4) Power cord
- (5) Auxiliary power supply line
- (6) UHF feeder
- (7) Net cable

3. Software

3.1 Test demo

3.1.1 Main interface



Conn	ection Settings Data Lan	guage(语言)								
%	%	Ø 9								
NO.	EPC φ	TID ¢	UserData 💠	ReadCount φ	RSSI(dBm) ¢	Timestamp 💠	Ant1 R1 💠	Total:	5	Tag
1	E28011700000020B3AE115B7			52	-20	14:45:28.167	52			T /C
2	E28068940000501694A3206D			52	-16	14:45:28.123	52	Instant:	54	1/5
3	E28068940000401694A3206F			52	-12	14:45:28.167	52	Average:	55	T/S
4	E28011700000020B3AE0FBB7			52	-16	14:45:28.167	52	-		
5	E28011700000020B3AE115A7			24	-29	14:45:28.072	24	Time:	00:00:04	
								State:	No person in/out	Ant4
								Ant5 A	nt6 Ant7	Ant8
								Anti A	nt2 Ant3 nt6 Ant7	Ant4 Ant8

In the main interface, you can view the read data, the speed of reading, personnel in and out of the data, choose whether the antenna is working and so on

3.1.2 Device Connect

Reader Switchin	ng		
 Single Reader 	Multi Reade	er	
	• TCP		
Client1	IP	192.168.1.201	
	Port	9090	
	Serial —		
	Serial Port	Please select	\sim
	Baud Rate	115200	

The device supports two connection modes, TCP and Serial. The default TCP IP address is 192.168.1.201. The default serial port baud rate is 115200.



3.1.3 Basic Settings

Device ID Device Number	D0000001	System Mod System Mode Work Mode	Access Control V General V	
Network Se	ttings	Database Mode	On v	
IP Address	192.168.1.201		Set	
Port	9090	Buzzer Volu	ime	
Subnet Mask	255.255.0.0	Volume	60	
Gateway	192.168.1.1		Set	
	Set	MAC Addre	\$\$	
Light Mode		00-14-97-6	53-CA-7E	
Start Mode	Light Off 🗸 🗸			
Flash Mode	No Flash V			. X \
	Set			

The parameters will be automatically obtained, if you need to change, you can modify the click Set.

 \diamond Light Mode:

Startup mode: You can set the blue light to be off or steady on when the access control is started

Blinking mode: You can select the mode of the lamp, which can be blinking or not blinking

♦ System Mode Settings:

Access Control and General are selected by default and do not need to be changed. The database is used for one of the anti-theft detection schemes and can be set to turn on or off

♦ Buzzer Volume:

Buzzer volume Value is 0-255.

3.1.4 RFID Settings

EPC Basebar	nd Parameters		Angle Betwo Directions	een Radio Fr	equency	Powe	r Settings				
Reader Module	1		Mode	Inside			Channel1			hannel2	
EPC Baseband Rate	Tari=25us,№	Aille \vee			Set	 ✓ 1 2 	10 ×	dBM			dBl
Session	S0					3		dBM			dBM
Q Value	4					4		dBM	4		dBM
Tag Search Mode	Α										dBM
Inventory Mode	Fast Switch		Reader	and Setting	\$				6		dBN
Run Count	2		Current								dBM
		Set	Band	FCC					8		dBM
					Set						
											Se

The parameters for RFID are set here.



3.1.5 Function Settings

			$[] \times$	
GPIO Settings	Server Settings			
	Person Cour	nt Module		
~	Status	On	~	
er/Exit Alarm 🗸			Set	
Set	Set Person C	ount		
of Card	1#(Stay)	0	∧∨	
Seconds	2#(In)	0	× ×	
Set	3#(Out)	0	×	
	4#(Display Mode)	In Library +	Ente 🖂	
ward \lor		Clear	Set	
ward \lor	Infrared Trig	iger		
ward \checkmark	IR1	Low	~	
ward \checkmark	IR2	Low	~	
Set	IR3	High	~	
	IR4	High	~	
			Set	
	GPIO Settings	GPIO Settings Server Settings Image: set	GPIO Settings Server Settings ✓ Person Count Module Status On Image: Set of Card Set Person Count ✓ Set Person Count Image: Set of Card 1#(Stay) ✓ Set On Set Set of Card 2#(In) ✓ Set On Set On 3#(Out) James Clear Intrared Trigger IR1 Low IR2 Low IR3 High IR4 High	GPIO Settings Server Settings

♦ Infrared Settings:

When the infrared status is turned on, the infrared trigger automatically associates the tag reading.

The alarm direction can be set to go out the alarm or enter the alarm.

♦ Delayed shutdown of tag Reading (infrared):

The tag read execution time after infrared trigger. The default tag read time after infrared trigger is 3 seconds. You can change it.

♦ Tunnel Direction:

Change the statistical direction of access control. The main door corresponds to the main aisle, and the Sub door corresponds to the secondary aisle.

♦ Set Person Count:

You can set and clear the number of people counted on the main screen.

♦ Infrared Trigger:

1 and 2 are two pairs of infrared states for the primary channel, and 3 and 4 are two pairs of infrared states for the secondary channel.



unctio	n Settings					$\square \times$
Infrare	d Settings	GPIO Settings	Serv	er Settings		
IO In	put		10 01	ıtput		
1#	Low	\sim	1#	Please select	~	Set
2#	Low	~	2#	Please select	~	Set
3#	Low	~	3#	Please select	~	Set
4#	Low	~	4#	Please select	~	Set
5#	Low	~	5#	Please select	~	Set
6#	Low	~	6#	Please select	~	Set
7#	Low	~	7#	Please select	~	Set
8#	Low	~	8#	Please select	~	Set

♦ GPIO Settings:

1 Red light and buzzer output control for the main channel, 2 blue light output control for the main channel. 3 is the red light and buzzer output control of the secondary channel, and 4 is the blue light output control of the secondary channel.

unction Settin	gs			[] >
Infrared Settin	igs	GPIO Settings	Server Settings	
Server Setti	ngs			
🔿 On 🛛 💿	Off			
IP Address	192	.168.1.201		
Port	909	0		~

♦ Server Settings:

Simulated access control actively reports data to the server.



3.1.6 Eas data

EAS			
Node	Mode 1	Enabled	
lert Time	3	Seconds	
		Set	
Auth	Group		
2 0	*******4********************	Set	
1	******5******	Set	
2	*****	Set	
2 3	***************************************	Set	
4	*****	Set	\sim
5	E280************************************	Set	
6	*****	Set	

A variety of EPC data alarm rules can be configured. Only need to fill in some key alarm data, other bits default to *.

5

3.1.7 Database data

Datab	se Data		
	Get All Data Get Alert Data t Whitelist Data Completed Count:	EPC	Search Delete Data Export Data Add to Clear Data Import and Add Alert List
NC	EPC 👙		类型 ⇔
1	E28069	9950000500865113525	Blacklist
2	E28069	9950000400865113539	Blacklist
3	E28069	9950000400865113533	Blacklist
4	E28069	9950000500865113534	Blacklist
5	E28069	995000040086511353A	Blacklist
6	00000	00003030148061801C008B000AA	Whitelist
7	00000	00003030148061801C008B000A9	Whitelist
8	00000	00003030148061801C008B000A4	Whitelist

You can configure the blacklist and whitelist. The blacklist data is used for alarm, and the whitelist data is not used for alarm.



3.1.8 Scan Config

a d Mode Single	Loop		Read ModeSingle	🔵 Loop		
an Area (U	nit: Characte	ers)	Scan Area (U	Jnit: Characters)	
ata	Start	Length	Data	Start	Length	
EPC			EPC			
TID		2 ^	TID		6	
UserData	0	<u>^</u> 2 <u>^</u>	UserData	0 ^	8 ^	
Reserve	0		Reserve	0	8 ^	

Set scanning rules, such as whether to read TID.

3.2 SDK API

Provides standard SDK apis for development. It can be developed based on business software.

Development SDK refer to " CER510 JAVA SDK Documentation ".

4. Q&A

Any technical questions, please contact with Century technical team, lizhenghao@century-cn.com