# SR20&SX20&SR40&MR04/08/16 User Manual

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# 1. Information

### **1.1.** Characteristics

- ☑ Support ISO18000-6C(EPC C1G2) protocol tag;
- $\blacksquare$  860~960MHz frequency band;
- ☑ Working voltage: +12V power supply;
- $\blacksquare$  Working current: < 1A
- ☑ Reading distance range: model SM02>2 metre, model SM04>4 metre
- ☑ Interface support:

Model SR20/SX20/SR40---RS485 and Wigand Model SR20U/SX20U/SR40U---USB, TCPIP and Wigand Model SR20N/SX20N/SR40N---TCPIP and Wigand

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Model MR04/08/16---TCPIP, RS485 and Wigand

# 1.2. Applications

 $\blacksquare$  Logistics and warehouse management: goods flow, warehouse management and

the flowing management of mail, parcels and luggage

☑ Intelligent parking management: parking management and automatic charges

☑ Productive lines management: production process fixed identify

 $\square$  Product counterfeit-proof inspection: using memory's write-protect functions inside tags and identifying with true-false of products

☑ Other fields: used widely in club management, libraries, students schools,

consumption management, time management, dinner management and pool management

# 2. Specifications

## 2.1. Model: SR20



## 2.2. Model: SX20



## 2.3. Model: SR40



## 2.4. Model: MR04/08/16



# 3. connection diagram

SR20	0	485commun	ication
	0	Wiggins com	munication
Wiring di	agram		
1. red	DC+9~16V	2. black	ov
3. brown	TXD (DB9-2pin)	4. yellow	RXD (DB9-3pin)
5. blue	GND (DB9-5pin)	6. gray	TRIGGER
7. white	DATA1	8. green	DATAO
9. orange	RS485R+	10. purple	RS485-



# 485communication



# Wiggins communication





# Wiring diagram

1. red	DC+9~16V	2. black	ov
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# Wiggins communication



# Wiring diagram

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7.white	DATA1	8. green	DATAO
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# 4. Software operation

### 4.1. Download address

Data Download 💿

# http://www.uhfsky.com

NOTE:

(1) At present, the software only supports WINDOWS and Android.

(2) When setting software parameters, do not place RFID tags within the equipment identification range, otherwise the setting will fail.

③Use keyboard to output rfid tag number type reference: for example

The same number of different forms of expression:

Decimal number (Dec) =123456

Hexadecimal number (Hex)=1E240

Weigand number =001, 57920 (Break the hexadecimal value 1 E240 into decimal numbers 001, 57920) If the output length is not enough, it can be set by adding 0 in front..

## 4.2. Operating instructions

## 4.2.1. Connecting equipment

There are three ways to connect devices: USB connection-serial port connection-network port connection  $_{\circ}$ 

#### **(1)**USB connection

Plug the device into the USB interface of the computer and the following message pops up:



Then open the device manager of the computer, and there will be one more device in the keyboard option. As follows:



This indicates that the computer has been successfully connected. Now, online operation is started.

#### **②Serial port connection**

SM series has RS232 or RS485 serial ports. If the computer has RS485 port or RS232 port, it can be directly connected to this equipment. If not, RS485 port should be converted into RS232 port or USB port, or RS232 port should be converted into USB port. As shown in figure:



When the converter is connected and plugged into the computer, the computer will remind you that you need to install the driver and install the driver according to the instructions. At this time, the computer will have an extra serial port interface, as shown in the figure:



When you unplug the converter, the serial port will disappear.

If the computer has its own serial port, it can be used directly without installing the driver.

#### **③Network port connection**

The network interface is divided into wired connection and wireless connection (WIFI connection). Wired connection is relatively simple, which can be directly connected with the computer by network cable or indirectly connected with the computer by router.

Operation steps of the computer to which the WIFI device is connected:

1. prepare a computer with WIFI signal.

2. WIFI devices have a reset button, and press it for 5 seconds. After releasing it, use the computer to search the WIFI network, find the WIFI network name of the device, and click Connect.

# 4.2.2. Connect computers

After downloading and decompressing the software, , Open the file a	nd
double-click the software icon .exe, The following main interface appears:	
CONNECT(C) LANGUAGE HELP(H)	
CHOOSE INTERFACE	
USB Interface O NET Interface O Serial Interface	
USB Parameters	
USB Device HID_3000-01  Refresh(F5)	
[ATTENTIONS] 1 When setting software parameters, do not place REID tags within the scope of device identification, otherwise the setting will fail:	
2. If you encounter problems with the card reader, please try to restore the factory settings first;	
Time BCD Time BCD Declet/UEV) Time Current Status	
Time KCP type KCP Packet(HEX)	
14.00.10 362 反现036反曲:	

There are three communication parameter configurations: USB Interface---serial Interface---net Interface. The parameter configuration of each interface is different, so you can connect to the computer only by choosing the correct configuration.

#### (1)USB Interface:

Select USB communication **USB Interface** after confirming that the USB device is plugged in, As shown in the figure:

USB Interface	NET Interface	Serial Interface
USB Parameters		
USB Device	HID 3000-01 - Refresh(F5)	

If the USB device is empty, please confirm whether the usb cable is plugged in again,

and then press the button strength or F5.

Select the USB device and click the "CONNECT" button  $\ensuremath{\text{.}}$ 

#### ②Serial Interface:

After confirming that the converter is installed, select the network port for communication • Serial Interface , As shown in the figure:

OSB Interface	NET Interface	Serial Interface
Serial Parameters		
PortName	COM1   BaudBate	57600 - Auto Switch

Select the serial port that appeared when the converter was installed before, the baud rate is 57600 by default, and click the "CONNECT" button.

#### **③NET** Interface:

After confirming the network connection (including wired network and wireless

network), sele	ct the netwo	rk port for c	communicati	on 🔍 NE	T Interface	As shown in the
figure:						
CHOOSE INTERFACE						
O USB Interface		) NET Interface		🔘 Serial In	nterface	
NET Parameters						
Device IP	192.168.2.115	🝷 🚺 Device	e Port	49152	Ping	Search device

Here, select the correct remote IP address and remote IP port of the equipment (by default, the computer is the customer service terminal, this equipment is the server, and TCPIP protocol), and click the "Network Diagnosis" button. If the connection is correct, the success sign will be displayed in the status bar, as shown in the figure:

TimeCurrent Status14:11:15 148PING:192.168.2.115 SuccessThis indicates that the connection has been successful.

Time Current Status

L

14:11:31 899 PING:192.168.2.115 TimedOut

This means that it has timed out and the connection failed.

Reason for connection failure:

1. The network is not connected correctly, so the network cannot be used. 2. If the IP address or port of the device is wrong, click the "Search Device" button to find out the IP address and port of the connected device, or reconfigure the network parameters of the device, such as IP address, TCPIP, UDPIP, gateway, etc. When setting the IP address, make sure that you can't have the same IP address in the same gateway. As shown in figure:

۲	Network mo	odule configura	ation software
	Search(F1)	Config	
Sele	ect device IP:192.	168.2.108 MAC:A	54C5E02EADE
т	Device IP	Mac Address	Dev Name
U	192.168.2.108	A64C5E02EADE	AD-NU

Click the "Search" button to search all online devices. You can select the equipment you want to set it up.

left Setting	NGS(UT Version)			_ 🗆 🗙
Current device IP:	192.168.2.108 MAC:/	A64C5E02EADE		
Server Type	TCP Server 👻	DHCP Mode	Static IP 👻	
Mac Address	A64C5E02EADE	Dev Name	AD-NU	
Device IP	0.0.0.0	Device Port	49152	
Net Mask	0.0.0.0	Gateway	0.0.0.0	
Serial Settings				
Show			**This form parameter is g	enerally default, not need change.
Other Settings				
Show			**This form parameter is ge	enerally default, not need change.
Get Settings	Default Settings			Save&Reboot

#### **(4)**CONNECT:

After configuring the communication mode, click the "CONNECT" button in the upper left corner, and four sub-function buttons can be operated on the back side after online:

**READ DEMO--BASE SETTINGS--SENIOR SETTINGS-- CUSTOM SETTINGS -- EPC READ&WRITE** As shown in the figure:

D DEMO				EDCIGEN 2) READS/WRITE		
Inven	BASE SETTI itory Tags:	IGS   SENIOR SETTINGS   1 Current Ant: Inventory Times(s): All Tags(tags): Run Times(s):		EPC(GEN 2) READ&WRITE Stop for Tags(tags): Stop for Run Times(sec Stop for Inventory(num Count A	80 × 0 × 0 × n): 0 × RSSI	Inventory Interval(ms): 50 🛓
Start Rea	iding Tags	Clear RCP Packet(HEX)	Save	Single Read	Time	Current Status
Start Rea e 3:26 646	nding Tags RCP Type 下发命令	Clear RCP Packet(HEX) 7C FF FF D6 00 01 01 AE	Save	Single Read	Time 10:03:25 259	Current Status 联机: 未连接读卡器 正在连接
Start Rea e 3:26 646 3:26 656	rding Tags RCP Type 下发命令 设备回复	Clear RCP Packet(HEX) 7C FF FF D6 00 01 01 AE CC FF FF D6 00 05 01 00 00 03	Save	Single Read	Time 10:03:25 259 10:03:25 492	Current Status 联机: 未连接读卡器,正在连接 联机: 已经连接读卡器.
Start Rea 3:26 646 3:26 656 3:26 726	nding Tags RCP Type 下发命令 设备回复 下发命令	Clear RCP Packet(HEX) 7C FF FF D6 00 01 01 AE CC FF FF D6 00 05 01 00 00 03 7C FF FF 87 32 00 CD	00 57	Single Read	Time 10:03:25 259 10:03:25 492	Current Status 联机: 未连接读卡器,正在连接 联机: 已经连接读卡器.

## 4.2.3. READ DEMO

(1)After the system is connect, the Inventory Tag interface appears directly, as shown in the above figure:

2Put the RFID tag within the recognizable range of the equipment.

③Click the "Start Reading Tags" button, and the label information will be displayed in the text box soon.

#### 4.2.4. BASE SETTINGS

Simple setting is a simple operation for users who have low requirements on data processing or don't know much about software. If there are higher requirements or more professional users, please use "Advanced Settings".

#### Click the "BASE SETTINGS" button on the left, as follows:

READ DEMO BASE SET	TINGS SENIOR SETT	INGS CUSTOM	SETTINGS	PC(GEN 2) READEN	WRITE			
Basic Parameters Cont	rol		SETTINGS E	PC(GEN 2) READON	WRITE			
Byte Offset 2	Byte Out In	nterval 30	*10ms	Pulse Width	10	*10us	Pulse Period	5 🔺 *100us
Work Mode	ctive 🔹 Read	Type 6C	•	Read Interval	10	🔹 *10ms	Command To Activ	s s
Output Mode	S485(USB/\ ▼ Same	ID interval 2	*0.5s	Buzzer	Enab	led 🔹		
Get	Set De	fault						
Int Control								
Choose Ant:	Ant1 🛛 Ant2	Ant3	Ant4					
Current Ant: 1	,2,3,4,			Clear All	Select A	AII .		
Choose Ant:	000E Currer			Get	Set		ef	
	RCP Packet(HEX)				•	Time	Current Status	
me RCP Type								
me RCP Type :15:18 192 下发命令	7C FF FF D6 00 01 01	AE				10:15:06 570	PING:192.168.2.116	TimedOut
me RCP Type 1:15:18 192 下发命令 1:15:18 192 设备回复	7C FF FF D6 00 01 01 CC FF FF D6 00 05 01	AE 00 00 03 00 57				10:15:06 570	<ol> <li>PING:192.168.2.116</li> <li>联机:已经断开读卡器</li> </ol>	TimedOut }.
	RCP Packet(HEX)					Time	Current Status	

Byte Offset: related to Wigan output parameters. Out Interval: related to Wigan output parameters. Pulse width: related to Wigan output parameter. Pulse period: related to Wigan output parameters. Working mode: Command mode (the equipment can work only when it sends a command without actively reading the card.) Active mode (the device reads the card actively, works when it is powered on, and sends data to the communication interface) Passive mode (the device reads the card actively, works when it is powered on, does not send data to the communication interface, and needs to send commands to receive data) Read type: select the label protocol type you want to identify. Read Interval: the frequency of identifying tags Command to active: in active mode, the automatic card reading time is suspended after sending the command the type of output label data, which can be EPC number or TID Output mode:

number.

Same ID interval:the time interval for uploading the same tag dataBuzzer:it can be turned on or off