

version:ver1.0





phone: 4000 255 652

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### product summary

Model number	Power supply DC	Interface	Network port 10/100Mbps	Package Type (Module products)
USR-TCP232-S	3.3V	TTL	PHY chip network	Stamp Hole
			interface	Package
	51//3 31/		Take 2kv magnetic	Pin package (DIP
0011-101202-1	5075.50		isolation RJ45	package)
			With 1.5KV PHY signal	Dia analysis
USR-TCP232-D	5V/3.3V	TTL	of electromagnetic	Ріп раскаде
			separation	(DIP package)
	5V power	RS232	Take 2 kv magnetic	
05R-10P232-2	adapter/terminal		isolation RJ45	
	5V power	00000	Take 2 kv magnetic	
USR-1CP232-200	adapter/terminal	ROZOZ	isolation RJ45	
	5V power	RS232/	Take 2 kv magnetic	
USR-10P232-24	adapter/terminal	RS485	isolation RJ45	
	5V power	RS232/	Take 2 kv magnetic	
05K-16P232-300	adapter/terminal	RS485	isolation RJ45	
	5V power	RS485/	Take 2 kv magnetic	
USK-10P232-442	adapter/terminal	RS422	isolation RJ45	



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### 1. Initial test

To do this initial test, On the one hand, there is a preliminary understanding of the module, on the other hand, test module is working

Notice: PC should be disable other network cards, only leave one WIF network cards. Below PC COM port is COM5, when you test it, you should know your PC COM ports. How to check your PC COM port: "My computer - > properties - > device manager - > port"



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Computer Management File Action View Help ? 📊 10 AREFVSNDF7WMY9J 🚂 Computer Management (Local Date Computer ▲ System Tools D Task Scheduler Disk drives Solay adapters Event Viewer Shared Folders DVD/CD-ROM drives D Human Interface Devices Local Users and Groups N Performance IDE ATA/ATAPI controllers Bevice Manager Imaging devices > C Keyboards Storage 🖃 Disk Management Memory technology driver Services and Applications Mice and other pointing devices Þ Monitors Network adapters PC com5 Ports (COM & LPT) USB Serial Port (COM5) Processors Sound, video and game controllers System devices Universal Serial Bus controllers

### 1.1. Hardware connect

The basic function of the TCP232-300 serial server, data communication between the serial port and network. It is the serial data transmitted to the network, the forwarding of data from the network to the serial port.



The module of serial port to connect to the serial port of computer, module RJ45 port connected to the computer



RJ45 port.

The hardware connection is completed, Ethernet port, the green light, yellow light flashing

### **1.2. Network connection**

Close the firewall

	✓ Windows > Customize Settings ✓ 4y Search Control Panel	<u>م</u>
File Edi	it View Tools Help	
Custo	omize settings for each type of network	
You ca	n modify the firewall settings for each type of network location that you use.	
What a Home	re network locations?	
	Turn on Windows Firewall	
	Block all incoming connections, including those in the list of allowed programs	
_	Wotify me when Windows Firewall blocks a new program	
8	Turn off Windows Firewall (not recommended)	
Public	network location settings	
0	Turn on Windows Firewall	
•	Block all incoming connections, including those in the list of allowed programs	
	Votify me when Windows Firewall blocks a new program	
	<ul> <li>Turn off Windows Firewall (not recommended)</li> </ul>	
	OK Can	cel

Disable wireless network connection



<sup>(事 !</sup> USR-TCP232-T24 products Getting Started M	Manual phone: 4000 255 652
La rectation and a Calendar	1 M Reality and 1
CO V Control Panel   Network and Internet   Net	work Connections 🕨
File Edit View Tools Advanced Help	
Organize 🔻 Connect To Disable this network device	Diagnose this connection Rename t
Local connections Wireles	ss network connection
来识别的网络 Realtek PCIe GBE Family Controller Qualco	E ZKB
	Connect / Disconnect
	Status
	Diagnose
	🚱 Bridge Connections
	Create Shortcut
	Delete
	🚱 Rename
	🚱 Properties

Setup the computer IP address:192.168.0.201







### **1.3. Related test software**

USR-TCP232-Test( http://www.usr.cn/Download/27.html ) 🙀 USR-TCP232-Test 串口转网络调试助手	
USR-TCP232-Setup (http://www.usr.cn/Download/28.html)	
USR-VCOM (http://www.usr.cn/Download/31.html) 🐼 有人虚拟串口软件 V3.5.2.0	

### 1.4. Data send/receive test

#### **1.4.1:** Set the step and the default parameters

arameters (i)	-				
Module work mode	TCP Client		Show 1	Expand function	ns »
Module IP	192. 168. 0. 7		Operate via COM	(?) CFG conn	ect to GND
Subnet mask	255.255.255.0		Select serial	port COM2	• (?
Default Gateway	192. 168. 0. 201			Read via COM	
Baud Rate(bps)	115200			Setup via COM	
Parity/Data/Stop	NONE 💌 8 💌	1 •	)perate via Net 1	(?) Leave CF	G pin free
Module port	20108			Search in LAN	
Destination IP	192. 168. 0. 201	4	Set se	lected item vi	a Net
Destination Port	8234		Device list in	the Net	
Logs 3			Module IP 192.168.0.7	MAC OOFFF8BB500	Ver 66 5.8
Parameters has upd change Param, click Net】.	ated to left form.A: Set selected iter	fter 🔺 n via	2		

1.4.2: Use the USR - TCP232 - TEST software TEST to send and receive data



Open USR-TCP232-Test. exe software select COM 5, baud rate 115200, select open serial ports

Net setting, set as TCP server, local port:8234.



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**1.4.3:** The software virtual serial port communication test Add COM com1, TCP server Local port 8234.

SR-VCOM Virtual Serial Port Server V3.5.2.0		83
Device(D) Tools(T) Options(O) 中文 Help(H)		
Add COM Del COM Connect Reset Count Mon	Image: Search     Image: Smart VCOM     Image: Smart VCOM	
Remarks COM Name Parameters COM State Net	et Protocol Remote IP Remote Port Local Port COM Received Net Received Net State Reg I	5
Add Virtual Serial Po Virtual CDM:	>ort     ▼       □CDM1     ▼       □CP Server     ▼       □92.168.0.201     20108       18234     ■       18234     ■       ② Cancel     Advanced ≫	

Virtual serial port com1 and PC serial port communication between com5 test:

Network to serial port data flow direction: PC Virtual serial > module RJ45 port->module serial port->PC serial port



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SR-TCP232-Test RS232 to Ethernet Convert tester	See USR-TCP232-Test RS232 to Ethernet Convert tester
File(F) Options(O) Help(H)	File(F) Options(O) Help(H)
COMSettings COM port data receive	COMSettings COM port data receive
PortNum COM1 _ http://www.usr.cn	PortNum COM5 Jinan USR Technology Co., Ltd.
BaudR 115200 -	BaudR 115200 -
DPaity NONE	DPaity NONE -
DataB 8 bit 💌	DataB 8 bit 💌
StopB 1 bit 💌	StopB 1 bit 💌
Close	: Close
Recv Options	Recv Options
TReceive to file	Receive to file
🗖 Add line return	Add ling return
TReceive As HEX	Receive As HEX
☐ Receive Pause	Receive Pause
Save Clear	Save Clear
Send Options	Send Options
🖵 Data from file	🗖 Data from file
🗖 Auto Checksum	🗖 Auto Checksum
🗖 Auto Clear Input	🗖 Auto Clear Input
🗖 Send As Hex	🔽 Send As Hex
🗆 🗆 Send Recycle	Send Recycle
Interval 1000 ms Jinan USR Technology	Interval 1000 ms http://www.usr.cn
Load Clear Co., Ltd. Send	Load Clear Send
Ready! Send: 30 Recv: 0 Reset	💅 Ready! Send: 0 Recv: 0 Reset

### 2. Method of use

# 2.1. serial device server connected to the router communication

### mode.

#### 2.1.1:

The router IP is 192.168.1.1.LAN segments is 192.168.1. X.But the module is the default IP 192.168.0.7.So you need to change the IP module.

**2.1.2: router IP: 192.168.1.1.. PC IP:**192.168.1.115.



OpenWrt - Overview - LuC	× +	
💙 < > C ウ ☆ http:/	//192.168.1.1/cgi-bin/luci/;stok=2ab955e1760c20dbf4ebf9e	5c7f3e9b0/admin/status/o
	Settings web page	
OpenWrt Status - System	n - Network - Logout	UNSAVED CH4
Mahuauk		
Network		
IPv4 WAN Status	Type: pppoe	
	pppoe- Address: 27.211.239.206	
	wan Netmask: 255.255.255.255	
	Gateway: 27.211.232.1	
	DNS 1, 202, 102, 128,08	
	Connected: 19h 57m 33s	
IPv6 WAN Status		
	? Not connected	
Active Connections	124 / 16384 (0%)	
BUIGB I		
DHCP Leases		

Hostname	IPv4-Address	IP Address MAC-Address	Leasetime remaining
AREFVSNDF7WMY9J	192.168.1.115	48:5a:b6:7c:77:4b	11h 49m 43s
android-39071427ef677b8b	192.168.1.200	20:08:ed:89:e0:cc	8h 22m 37s

#### PC IP address:

General		Network Connection Details:	
Connection		Property	Value
IPv4 Connectivity: IPv6 Connectivity: Media State: SSID: Duration: Speed: Signal Quality: Details Wireless Pri Activity Sent —	No Internet access No Internet access Enabled 14D24E_ZKB 00:02:06 150.0 Mbps	Connection-specific DN Description Physical Address DHCP Enabled IPv4 Address IPv4 Sebnet Mask IPv4 Default Gateway IPv4 DNS Server IPv4 WINS Server NetBIOS over Topip En Link-local IPv6 Address IPv6 Default Gateway IPv6 DNS Servers	Qualcomm Atheros AR9485 Wireless Ne 48-5A-B6-7C-77-4B No 192.168.1.115 255.255.255.0 Yes fe80::6170:989d:bfb1f327%12 fec0:0:0.ffff::1%1 fec0:0:0.ffff::2%1
Bytes: 278,270	Diagnose		Fec0:0:0:ffff::3%1

#### 2.1.3: Modify the module IP address



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USR-TCP232-Setup V	5.0.0.62	
	ap <u>3</u>	
Parameters (?) Module work mode	TCP Client	Show Expand functions »
Module IP	192. 168. 1. 7	Operate via COM-(?) CFG connect to GND
Subnet mask	255. 255. 255. 0	Select serial port COM2 (?)
Default Gateway	192. 168. 1. 1	Read via COM
Baud Rate(bps)	115200	Setup via COM
Parity/Data/Stop	NONE V 8 V 1 V	Operate via Net-(?) Leave CFG pin free
Module port	20108	Search in LAN
Destination IP	192. 168. 1. 115 4	Set selected item via Net 5
Destination Port	8234	Device list in the Net
Logs		192.168.0.7 OOFFF8BB5066 5.8
Parameters has upd change Param, click Net].	ated to left form.After 🖍	2
	*	

2.1.4: Search in LAN ,Modify the success



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Search HX H	eip				
rameters (?)					
lodule work mode	TCP Client	Show Expand functions »			
Module IP	192. 168. 1. 7	Operate via COM-(?) CFG connect to GND-			
Subnet mask	255. 255. 255. 0	Select serial port COM2 💌 (?)			
Default Gateway	192. 168. 1. 1	Read via COM			
Baud Rate(bps)	115200	Setup via COM			
°arity/Data/Stop	NONE 💌 8 💌 1 💌	Operate via Net-(?) Leave CFG pin free-			
Module port	20108	Search in LAN			
Destination IP	192. 168. 1. 115	Set selected item via Net			
lestination Port	8234	Device list in the Net			
		Module IP MAC Ver			
gs		192.168.1.7 00FFF8BB5066 5.8			
Melp: 1. You can use COM config the device, choose one 2. When use COM po to GND, while use connect 3. MouseOver displa Any question, Emai	port or Ethernet to but you just need rt you must connect CFG Ethernet you shoule not y hints 1 to tec@usr.cn	7			

2.1.5: Use the USR - TCP232 - TEST software TEST to send and receive data

🙀 USR-TCP232-Test RS232	to Ethernet Convert tester		
File(F) Options(O) Help(	(H)		
COMSettings	COM port data receive	Network data receive	NetSettings
PortNum COM5 💌	http://en.usr.cn	[Receive from 192.168.1.7 : 20108] :	(1) Protocol
RaudR 115200 ▼	<b>k</b>	Jinan USR Technology Co., Ltd.	TCP Server 💌
		1	(2) Local host IP
DPaity NUNE			192.168. 1 .201
DataB 8 bit 💌			(2) Loop heat part
StopB 1 bit 💌			8234
· Close			🔘 Disconnect
Recy Options			Recy Options
E Receive to file			E Receive to file
Add line return			Add line return
E Receive As HEX			Receive de HEX
E Receive Pense			Receive Peuse
Save Clear			<u>Save</u> <u>Liear</u>
Send Options			Send Options
Data from file			🗖 Data from file
Auto Checksum			Auto Checksum
Auto Clear Input		N	🗖 Auto Clear Input
Send As Hex			Send As Hex
Send Recycle		Peers: 192.168.1.7:20108	Send Recycle
Toterval 1000 mg	Jinan USR Technology Co.,	http://en.usr.cn	Interval 1000 ps
Load Clear	Ltd. Send	Send	Load Clear
🍯 Ready!	Send: 30 Recv: 16 Res	et 🕼 🖝 Ready! Send:16	Recv : 30 Reset



# 2.2. USR-TCP232-T24 Series modules connect to the server setup

### method



Web link: http://www.usr.so/Faq/67.html

### 2.3. TCP server mode setting



#### 2.4.1: software Settings



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Search 中文 H	elp		
aramatars (2)	3:设置为TCP se	erver	y
Module work mode	TCP Server	1	Show Expand functions »
Module IP	192. 168. 0. 7		Operate via COM-(?) CFG connect to GND-
Subnet mask	255. 255. 255. 0		Select serial port COM2 (?)
Default Gateway	192. 168. 0. 1		Read via COM
Baud Rate(bps)	115200		Setup via COM
Parity/Data/Stop	NONE • 8 • 1 •	1	Operate via Net-(?) Leave CFG pin free
Module port	20108		1 Search in LAN
Destination IP	123. 232. 174. 21	4	Set selected item via Net
Destination Port	23419		Device list in the Net
			Module IP MAC Ver
ogs			192.100.0.1 000000000 5.0
Help: 1. You can use COM config the device, choose one 2. When use COM po to GND, while use connect 3. MouseOver displa Any question, Emai	port or Ethernet to but you just need rt you must connect CFG Ethernet you shoule not y hints l to tec@usr.cn	*	2
		+	
I			

2. 4. 2: Serial to Ethernet Server front-end ports connected to computers Computer set a static IP address:192.168.0.201

Vetworking		PV4) Properties
	General	
Connect using:	You can get IP settings assigned a	automatically if your petwork supports
Realtek PCIe GBE Family Controller	this capability. Otherwise, you ne for the appropriate IP settings.	ed to ask your network administrator
Configure	🔘 Obtain an IP address automa	atically
Classifier Misses H Networks	Use the following IP address	i —
	IP address:	192.168.0.201
Internet Protocol Version 6 (TCP/IPv6)	Subnet mask:	255.255.255.0
	Default gateway:	192.168.0.201
	Obtain DNS server address a	automatically
	O     Use the following DNS server	r addresses:
Install Uninstall Properties	Preferred DNS server:	
Description Transmission Control Protocol/Internet Protocol. The default	Alternate DNS server:	100 A A
wide area network protocol that provides communication across diverse interconnected networks.	Validate settings upon exit	Advanced
(lose ) (cancel		OK Cancel

2. 4. 3: Use the USR - TCP232 - TEST software TEST to send and receive data



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### 2.4. UDP server mode



#### 2.4.1: setup parameters



arameters (9)			ÌΓ	
Module work mode	VDP Server 💌	1		Show Expand functions »
Module IP	192. 168. 0. 7	1		Operate via COM-(?) CFG connect to GND-
Subnet mask	255. 255. 255. 0			Select serial port COM2 💌 (?
Default Gateway	192. 168. 0. 201			Read via COM
Baud Rate(bps)	115200			Setup via COM
Parity/Data/Stop	NONE 💌 8 💌 1 💌	1		Operate via Net-(?) Leave CFG pin free-
Module port	20108			Search in LAN
Destination IP	192. 168. 0. 201		4	Set selected item via Net
Destination Port	8234			Device list in the Net
3 2				192.168.0.7 OOFFF8EB5066 5.8
Parameters has upd change Param, click Net】.	lated to left form.After ≿ 【Set selected item via	*		2

2. 4. 2: Use the USR - TCP232 - TEST software TEST to send and receive data





### 2.5. UDP Mode



#### 2.5.1: setup parameters

arameters-(?)			0.51				
Module work mode	VDP Mode 💌		Show I	Expand function	15 »		
Module IP	192. 168. 0. 7	-0	perate via COM-	(?) CFG conn	ect to GND		
Subnet mask 255.255.255	255. 255. 255. 0		Select serial port COM3 💌				
Default Gateway	192. 168. 0. 201		Read via COM				
Baud Rate(bps)	115200		Setup via COM				
Parity/Data/Stop	NONE 💌 8 💌 1 💌	-0	perate via Net-	(?) Leave CF	G pin free		
Module port	20108		1 Search in LAN				
Destination IP	192. 168. 0. 201		4 Set selected item via Net				
Destination Port	8234		Device list in	the Net			
			Module IP	MAC	Ver		
.ogs 3			192.168.0.7	00FFF8BB506	6 5.8		
Help: 1. You can use COM config the device, choose one 2. When use COM po to GND, while use connect 3. MouseOver disple Any question, Emai	port or Ethernet to but you just need rt you must connect CFG Ethernet you shoule not y hints l to tec@usr.cn	*	2				

2. 5. 2: Use the USR - TCP232 - TEST software TEST to send and receive data



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### 3. Common applications

### 3.1. serial port setup

Module is connected with the computer serial port,GND pin and CFG pin connection Using the software Settings:



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remeters (2)	<u> </u>				
Module work mode	TCP Client 💌	Show	Expand functi	ions »	
Module IP	192. 168. 0. 7	Operate via CO	H (?) CFG con	nnect to (	GND
Subnet mask	255. 255. 255. 0	Select serial	port COM3	•	] (?)
Default Gateway	192. 168. 0. 201	3	Read via COM	1	]
Baud Rate(bps)	115200	4	Setup via CO	M	
?arity/Data/Stop	NONE 💌 8 💌 1 💌	Operate via Ne	t-(?) Leave (	CFG pin fi	ree
Module port	20108		Search in LA	N	
Destination IP	192. 168. 0. 201	Set selected item via Net			
)estination Port	8234	Device list i	n the Net		
		Module IP	MAC	Ver	
lgs					
Help: 1. You can use COM config the device, choose one 2. When use COM po to GND, while use connect 3. MouseOver displa	port or Ethernet to but you just need rt you must connect CFG Ethernet you shoule not y hints 1 to tec@usr.cn				
Any question, Emai					

Setup successfully, disconnect with CFG GND pin nipple

### 3.2. Two TCP232 modules transparent transmission concrete

steps



Web link:http://www.usr.so/Faq/45.html



# 3.3. Many to many serial communication





Web link: http://www.usr.so/Faq/66.html