Contents

Contents	1
Preface	2
Chapter 1 Introduction	3
1.1 Overview	3
Chapter 2 Main features	4
Chapter 3 Pin Description	5
3.1 Module pin diagram	5
Chapter 4 Technical Specification	7
4.1 Operating Environment	7
4.2 Power Supply	7
4.3 Ethernet Specification	7
4.4 Serial Parameter	7
4.5 Default Factory Setting	7
4.6 Mechanical Specifications	8
Chapter 5 Software instructions	9
5.1 Setup visual serial port	9
5.2 Visual serial port instruction	10
5.3 Search software instruction	13
5.4 WEB Management	17

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Preface

Version Description

The Manual Version: V1.5

Copyright Statement

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Abstract

This manual describes installation and use of the Serial device server. Please be sure to read all the information carefully and follow the manual instruction to install the product before you first use our device. It may avoid any damages occurred by mis-operation. Thanks for choosing our products.

Environmental Protection

This product meets the design requirements on environmental protection. Any use, storage and disposal of the product shall be conducted under relevant national laws and regulations.

You are most welcome to put forward advices and suggestions for our work and it well be viewed as the greatest support for our company.

Chapter 1 Introduction

1.1 Overview

Serial device server is the serial networking equipment with high performance based on 32-bit ARM CPU, and realizes the transparent transmission between single serial ports to TCP/IP network. It provides the total solution of how the serial port equipment access TCP/IP network, so you can visit any serial equipment through this module by TCP/IP network. Serial device server greatly improves the control and management ability for serial equipment.

Serial device server module provides the full function UART serial port and network interface based on Ethernet, and offers a full set of instructions and reserved the expansion of the control signal line. This module makes it easy to integration to engineering system.

Serial device server has advanced features such as powerful function, flexible networking, and modular design. According to user's different network demand you can choose different network transmission protocol.

Serial device server is specifically designed to allow DTE devices to be directly accessible from the network. Legacy devices can thus be transformed into Ethernet devices, which can be monitored and controlled from any network location or even the Internet. Different configurations and features are available for specific applications, such as protocol conversion, Virtual COM drivers, and TCP/UDP operation modes to name a few.

Serial device server can be widely used for integrated access of serial data acquisition in telecommunication, power, water conservancy, financial, traffic, coal, public security, prison, forces and other departments.

Chapter 2 Main features

- Based on 32-bit ARM CPU, High performance and low power consumption;
- Support full function serial signal: TxD/RxD/RTS/CTS/DTR/DSR/DCD/GND
- Data Bits: 5/6/7/8
- Parity: None/Even/Odd/Space/Mark
- Stop Bits: 1, 2
- Flow Control: RTS/CTS
- Baud rate: 50bps 460.8Kbps
- Configuration Options: Built-in WEB server
- Software upgrade function
- Operation mode: including TCP Client, TCP Server and UDP
- User's applications communicate with the device by 1.
 Socket, 2. Visual serial port
- Input Voltage: 5V

Chapter 3 Pin Description

3.1 Module pin diagram



3.2 Function pins

PIN NAME	PIN	Туре	Description		
	No.				
Power and Groun	d				
VCC(+5V)	6	Р	DC +5 V power supply input pin		
GND	5	Р	GND		
CGND	18	Р	housing ground wire		
UART Serial Port					
T_RX	3	Ι	UART Receive data pin		
T_TX	4	0	UART Transmit data pin		
T-DTR	13	O/232	UART Data Terminal Ready pin		
T-CTS	14	I/232	UART Clear the transmit pin		
T-DSR	15	I/232	UART Data Set Ready Pin		
T-DCD	16	I/232	UART Data Carrier Detect		
T-RTS	17	O/232	UART Request to transmit pin		
T_DE	24	O/485	UART 485 transmit Enable		
Ethernet Interfac	e (PHY	addres	s :9)		
E-78	7	NC	Connect the Ethernet physical		

			interface RJ45-pin 7,8			
E-45	8	NC	Connect the Ethernet physical			
			interface RJ45-pin 4,5			
E-2 (TX-)	9	0	Ethernet Transmit Data+			
E-1 (TX+)	10	0	Ethernet Transmit Data-			
E-6 (RX-)	11	Ι	Ethernet Receive Data+			
E-3 (RX+)	12	Ι	Ethernet Receive Data-			
LED-SPD#	19	0	Ethernet work : 100M,low			
			10M ,high			
LED-LINK#,	20	0	Ethernet is valid for the low level of			
			transition data transceiver, Ethernet is			
			invalid high			
Miscellaneous Pin	IS					
Restore	2	Ι	Restore the factory default settings,			
			power-low reset			
Reserved0-2	21-23	Ι	Retain control pin			
NC	1	NC	Null			

Serial device server module user manual

Remark:

- UART sign, Ethernet indicator light signals : 3.3V TTL signal,
- 2. I: Input O: Output P: Power

Chapter 4 Technical Specification

4.1 Operating Environment

The device has a wide range of operating temperature and is able to work normally and stably in highly adverse environment.

Working Temperature	$0^\circ \mathrm{C} \sim +50^\circ \mathrm{C}$
Storage Temperature	$-40^\circ \mathrm{C}~\sim~+70^\circ \mathrm{C}$
Relative Humidity	10 %~95 %

The environment should be free from corrosive and solvent gases, dust, and magnetic interference.

4.2 Power Supply

Input voltage	DC5V
Electric current	<230mA

4.3 Ethernet Specification

10/100M Auto MDI/MDIX, IEEE 802.3u auto-negotiation

4.4 Serial Parameter

Serial Signal:

TxD/RxD/RTS/CTS/DTR/DSR/DCD/GND

Serial Communication parameter:

Data bit: 5/6/7/8

Parity: None/Even/Odd/Space/Mark

Stop Bit: 1, 2

Flow Control: Hardware XON/XOFF

Speed rate: 50bps - 460.8Kbps

4.5 Default Factory Setting

Serial port: 9600,n,8,1 no flow control IP Address: 192.168.0.168 Subnet mask: 255.255.0.0 Gateway: 192.168.0.1 Working model: udp Listening Port: 8000 Peer IP: 192.168.0.32 Peer Port: 8000 Web Security Setting: No password

4.6 Mechanical Specifications





Chapter 5 Software instructions

When you use the Serial device server at first time, you need to set the network and serial parameters according to your requirements. We supply the search software and visual serial port management to provide convenience for configure and manage Serial device server.

5.1 Setup visual serial port

According to the following steps to install the application on the computer with WINDOWS platform.

First, double click the "VcomSetup.exe " file to run it.



Second, click the " next " on welcome window to continue the install. When appears below interface, you can modify the install folder here.



Third, click the " install ", the software will start to install.



At this time, there will be the installation process. Installation requires a certain time, please be patient.



Fourth, click the "finish" to complete installation process.



5.2 Visual serial port instruction

Equipment serial port was virtualized on computer by visual serial port, visual serial port, and management software only have to make communication serial interface point to virtual serial port to realize software communication.

Open the visual serial port in the installation disk, as show in the following picture.

* *	9 - 19 I 19 C							
۸.	York Hode	Lixten Fort	Device IF:Fort	Status	Laxt Operation.	Synchronize	Real CON	Description

Visual serial port management

Add visual serial port:

Click Not to add visual serial port, pop-up adding virtual serial port mapping dialog box. Different mapping mode will appear below three different dialog boxes.

Add VCON	Add VCOM			Add VCOM	
Parameter Sync Disable 💌	Parameter S	ync Disable 💌		Parameter Sync	Disable •
Start VCOM ID COM2	Start VCOM	ID COM2		Start VCOM ID	COM2
VCOM Number 1	VCOM Number	1		VCOM Number	1
Description	Description		-	Description	
Work Mode UDP	. Work Mode	TCP Client		Work Mode	TCP Server
Listen Port 8001	_			Listen Port	8001
Device IP 192 168 1	.122 Device IP	192 .168 . 1 .122			
Device Port 1024	Device Port	1024			
Device Real COM	Device Real	сом •		Device Real COM	
OK Close		OK Close		OK	Close

Parameter specification:

Serial parameter Synchronization: No synchronization function.

Start virtual serial port: Choose the name of start virtual

serial port, COM2~COM512.

Virtual serial port number: The number of one-time established virtual serial port, maximum number is 8.

Note: Record the information of virtual serial port

Mapping mode: UDP, TCP client and TCP server

UDP mode:

Local port: Set computer local port

Device address: Set corresponding remote Serial device server IP address

Device port: Set corresponding remote Serial device server port

TCP client mode:

Device address: Set corresponding remote Serial device server IP address

Device port: Set corresponding remote Serial device server port

TCP server mode:

Local port: Set computer local port

Virtual serial port configuration	Device configuration
(Assumption	(Assumption
IP:IP A	IP:IP B
Port: Port A)	Port: Port B)
Mapping mode: TCP server	Operation mode: TCP client
Local port : Port A	Monitor port:(nonsense)
	Server IP: IPA
	Server port: Port A
Mapping mode: TCP client	Operation mode: TCP server
Device address: IP B	Monitor port: Port B

Related parameters configuration

Device port: Port B	Server IP:(nonsense)
	Server port:(nonsense)
Mapping mode: UDP	Operation mode: UDP
Local port: Port A	Monitor port: Port B
Device address: IP B	Server IP: IP A
Device port: Port B	Server port: Port A

Serial device server module user manual

Delete visual serial port:

Select the corresponding visual serial port, and click 15 to delete.

Modify visual serial port:

Select the corresponding visual serial port, and click 15 to modify.

5.3 Search software instruction

Search software is the WINDOWS GUI, which is easy for you to configure and manage the serial interface server. It can search the all devices in the same network, check and set the network parameter and serial parameter. It also can achieve remote upgrade and reset.

Open the search software " DeviceManager" at first, select corresponding button or menu to use various practical function.



Search for device

Click "local search" to update the converter list in LAN.

L Sourch Range Sourch S LAC Address 0. FF. 01.80.79.A4	Esting Re	IP Address	Clew Info	200 Alevat			
AC Addxess 5. FF. 01.80.79.A4		IP Address					
0.FF.01.80.79.A4					Model	Version	Description
		192.141.140.225			C207	1.29	Secial-To-Σth-Sevice
				Sear	ching device, please whit Cancel		
				_			

Click "assigned IP search " to search the assigned IP address device, you can search via IP segment or assigned single IP.

Search 🗙	Search 🔀
Please input an IP range:	Please input an IP address:
Low Address	IP: · · ·
End Address:	
☐ Single IP Address	🔽 Single IP Address
Start Cancel	Start Cancel

Configuration:

Select the device, and double-click the device list or click "setting" button, the following converter setup dialog box will show up. Click "product information" to view the converter model, MAC address and modify "device Profiles" (most 15 Chinese characters or 31 English letters)

al Rearch Range Fourth	Ber 20 Automa Char Info At	ent .		
HAC Address	IP Addcepp	Model	Version	Description
00.FF.01.80.79.84	192,141,140,222	CH01	1.29	Serial-To-Eth-Device
	Terrist at Phileren Conversion System Kinession (assessed (2004) Read (2004) R	System Hyperede		
			Canal Canal	

Click "network parameter setting" to designate IP address, net mask and gateway for device.



Click "serial parameter configuration" to set the operation mode, port, baud-rate, data bits, stop bits, parity bits, flow control, transmission time and the length of packet.

Serial to Ethernet Manager		\mathbf{X}
System Information Network COM-1 System	tem Upgrade	
Socket Setting	COM Setting	
Workmode DDP	Baudrate 9600 💌	
Listen Port 8000	Databit 8	
Server IP 192.141.140.200	Parity None	
Server Port 8000	Stopbit 1	
	Flowctrl None	
	Min Send Time 0 (ms) (0-1000)	
	Min Send Size 960	
	OK Cancel	·

Minimum transmission time: the timer will reset after the

converter receives data from the serial port. If converter hasn't received the next data when minimum transmission time overtime, converter will send the next data to the network. If minimum transmission time is 0, you can configure the transmission time according to baud-rate. A device default value is 0ms.

Minimum transmission bytes: when the converter receives the minimum transmission byte data from the serial port, it will send the data to the network. A device default minimum transmission bytes is 960.

Converter will send data to network with any one of the conditions as Minimum transmission time and Minimum transmission bytes.

If the serial port rate is low, cut down the Minimum transmission bytes.

Package Upgrade: select "system upgrade" and open the dialog box to choose firmware, press the" start" to finish upgrade.

Serial to Ethernet Manager
System Information Network COM-1 System Upgrade
Flease select the file to upgrade:
Upgrade
OK Cancel

Restart device

Select the device that is need to restart, click "system restart" to show the following dialog box. Tip chooses to recovery factory

default setting or no. Click "Yes" to restart and recovery factory default setting, and click "No" to restart device.

Series to statistic surveyer vi. sve				
price persite for her				
Local Search Banes Search Setting Benet	YEB Access Clear Lafe About			
NAC Address	IP Address	Model	Version	Description
00.FF.01.80.79.A4	192,141.140,222	C901	1.22	Serial-To-Eth-D
	Serial to Ethernet Tam			
	Do you want to reset	the device?		
	Yes No	Canole		
				1

5.4 WEB Management

System Information page, login in default IP address: 192.168.0.168, Default when no password is factory or you restore the factory default settings will not detect the user's access privileges can directly access the pages.

System Information

Set the device description, system name, system location and contact way, at the same time on the current page you can see the version number of the device, MAC address, and system uptime.

Serial to Ethernet server

System Config		System Information							
	System Information	Attribute	Parameter						
L	System Connig	System Information	C901E						
L	Network Conng	System Name	Uart Server						
L	System Kestart	System Location	XXX						
5	Serial Config	Contact Information	XXX						
		Hardware Version	1.01						
		Software Version	2.3						
		MAC Address	A4:C2:A8:01:29:0E						
		0-Days 0-Hours 1-Minutes 28-Seconds							
		Refresh Config							

System Config

It can change WEB password here, also to set device automatic reboot time and no data reboot time and normal reboot.

Serial to Ethernet server

System Config System Information	System Config	
Bystem Confid	Status	Attribute
Network Config	No Data Reset Time	0 Hours 0 Minutes
System Restart	Current No Data Time	176 s
Serial Config	Automatic reset time of device	24 Hours 0 Minutes
	Send IP to serial ports	1 1:Enable 0:Disable
		Refresh Config

No Data Reset Time: You can set the maximum 99 hours 59 minutes. Automatic reset time of device: You can set the maximum 999 hours 59 minutes.

Network Config

Click on the network config, you can view device IP, subnet mask, and can be modified.

Serial to Ethernet server

System Config	Network Config	
System Information	Attribute	Parameter
System Conng	- IP	192.168.0.168
Network Contig System Restart	MASK	255.255.0.0
	Gateway	192.168.0.1
Serial Config	MAC	A4:C2:AB:01:29:0E
		Refresh Config
	Note: IP/Mask format A.B.C.D f After IP changes, please	or example 12.16.1.1 enter the new IP to access the equipment.

System Restart

Click on the system restart, you can immediately restart the device after

the restart to restore the factory configuration.

Serial to Ethernet server

System Config System Information	System Restart		
System Config	Status	Attribute	
Network Config	System Restart	No restart	
System Restart Serial Config		No restart Immediately restart Restart & Default configuration	Config

Mapping Config

Config the serial port mapping mode and peer IP on this page.

Serial to Ethernet server

Seri	ial PortMode		Listen Port	Peer IP	Peer Port	
1	UDP	~	8001	192.168.0.32	8001	
Note:	Refresh Confg					

Serial Parameter

Click hardware parameter to config serial port parameter which including baud rate, data bit, stop bit and Parity bit.

Serial to Ethernet server

System Config	Serial Para	ameter						
Serial Config	Serial Port	Baudrate	Data Bits	Parity	Stop Bits	Flow Con	trolMinSendTime	MinSendSize
Mapping Config	1	9600 💌	8 🗸	None 💌	1 🗸	无 🗸	10 ms	960
Data Statistical	LParameted Refresh Config							
	Note: MinSendTime: I	f serial data is not re	ceived for the spec	ified amount of tim	e, the data that is cu	rrently in the b	uffer is packed	
	for network is received fi	for network transmission. A setting of 0 means that data in the buffer will not be automatically packed when no further data is received from the device.						
	MinSendSize: If Data in the buffe	serial data currently ar will packed for ne	in the buffer reach twork transmission	ed the MinSendSize h if MinSendTime or	, data in the bufferv MinSendSize satisf	rill packed for r ied.	etwork transmission.	

Data Statistical

Check statistical of 8 channels serial port's data transmission.

Serial to Ethernet server

System Config		Data Statistical				
Serial Config Manning Confi	a	Serial Port	From Eth	To Serial	From Serial	To Eth
Serial Parame	ter	1	0	5	0	0
Data Statistica	3			Refresh Clear		