ZLSN2100 Serial Server User Manual

RS232 to TCP/IP Solution

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Document DI: ZL DUI 20090115.1.0

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Version Information

The History of the revision to this document:

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Date	Version	Document ID	Revising content
2009-1-15	Rev.1	ZL DUI 20090115.1.0	First release
2009-8-17	Rev.2	ZL DUI 20090115.1.0	Add new content

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1. Summery

ZLSN2100 Serial Server is a kind of RS232 to TCP/IP protocol converter produced by Shanghai Zorlan information technology Co., Ltd. This type of Serial Server can conveniently let your legend serial device connect to Ethernet and Internet, and upgrade the serial device with networking.

ZLSN2100 is a kind of high cost performance serial server, which support DHCP, DNS. It can easily help to realize remote monitor of devices in different place. It support virtual serial driver, and user's previous PC software using serial to communicating need not change.

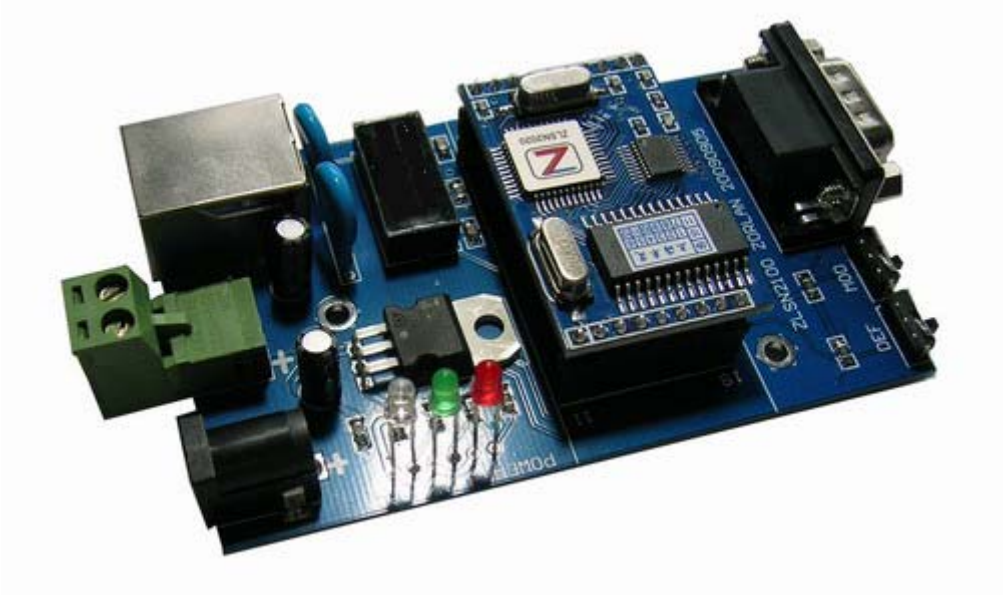

Figure 1 ZLSN2100serial server

It can be applied to:

- building/e-guard system/security system;
- bank/medical automation system;
- dealing in securities system;
- industry automation system;
- Point of Sells (POS) system;
- Information Appliance.

The typical application is slowed in Figure 2. The previous serial device is

connected to ZLSN2100, and then connects ZLSN2100 to Ethernet through networking cable. From now on, any data sending from serial device will transparently transformed to PC specified by this serial server; and the data sending by PC to serial server will also be transparently transform to serial device.

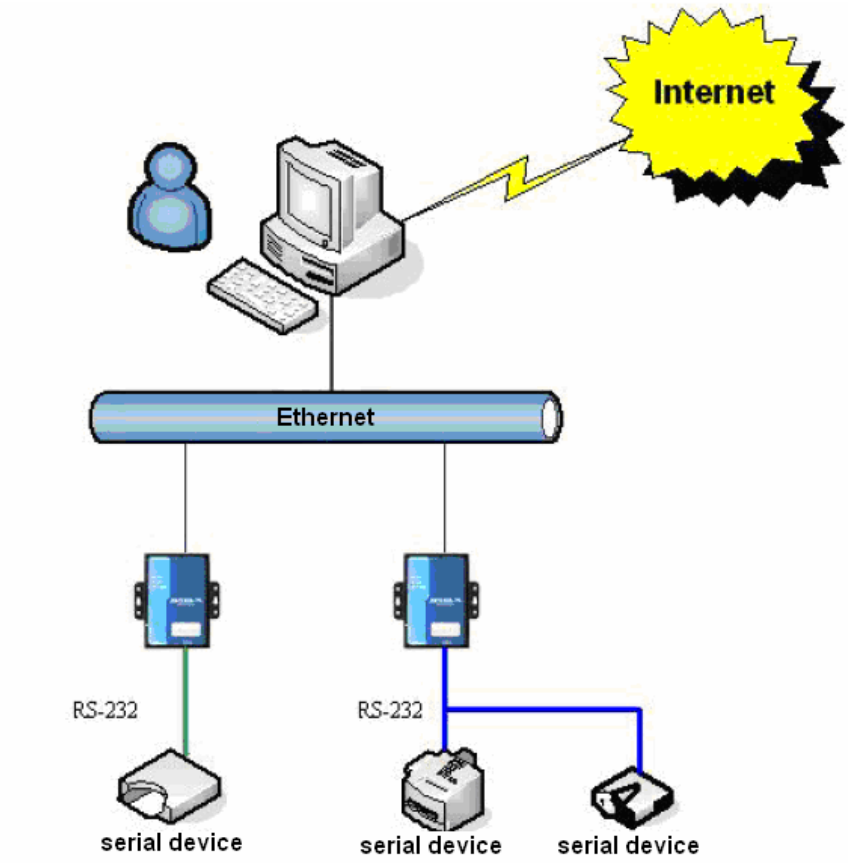

Figure 2

1.1. Feature

1. Support full duplex, high speed converting, and no packet lost.
   ZLSN2100 is the first type of full duplex, continuous, and low cost serial server in industry. It support simultaneously converting between Ethernet &Serial with large bulk of data with no pause, and also no data is lost.
2. Hight cost performance.
   ZLSN2100 is designed by concept of intensification, after ensure the stability. It highly takes the cost of networking upgrading in count
3. Support TCP Server, TCP Client, UDP mode, and if communicating with

ZLVirCom (our software), it automatically change to Real Com Driver Mode.

4. Support band rate300~115200bps, data size 5~8bits, parity of None, Odd, Even, Mark, Space. Support CTS/RTS hardware flow control.
5. Equipped freely with our Windows Virtual Serial & Device Management Tool ZLVirCom. It supports virtual serial and searching device or modifying parameters with ZLVircom.
6. Provide device management library (Window DLL library). It will help user to develop program with VC, VB, Delphi, C++ Builder. User need only use read() or write() function to communicate with ZLSN2100.
7. The innovative disconnecting detecting method. Whether it running in TCP Server mode or TCP Client mode, once network is disconnected by some reason, the disconnecting detecting method will detected it and reestablished the connecting.
8. Suitable for Modbus RTU networking upgrading. It is compatible with the software of SCADA/HMI software of Beijing Sunway ForceControl Technology Co. Ltd; Also it support directly transform Modbus TCP to Modbus RTU.
9. With build-in Web server, its parameters can be modified by web browser.
10. Low power consumption. The max power is 0.25mW.
11. Support DHCP, easy for IP management and solve IP confliction.
12. Support DNS. It fulfills the need of access data server through domain name.
13. Flexible serial data framing setting. It fulfills all kinds of serial data frame requirement.
14. UDP mode support dynamic destination address mode. It helps for multi-user mange one serial server.
15. Real Com Driver mode support using the 9-th bit to facilitate communication with milt-device. (the 9-th bit being 0 means data frame and 1 means address frame).
16. Support searching serial servers and modifying parameters through Internet remotely
17. Support parameter modifying protection, preventing modifying by accident. Support running with default parameters.

18. Build-in 2 KV electrical plus protection in RJ45.
19. High protection of electromagnetic interference, with its high electromagnetic interference protection SECC external shell.

1.2. Technical Parameters

Figure			
Interface:	Serial DB9 Male; RJ45 Networking connecter; Power plug-in or terminal		
Size:	L x W x H = 9.4cm x 6.5cm x 2.5cm		
Communicate interface			
Ethernet:	10M/100M, 2KV electrical plus protection		
Serial	RS232 x 1:RXD,TXD,GND, CTS, RTS		
Serial parameters			
Band rate:	1200~115200bps	Parity:	None, Odd, Even, Mark, Space
Data size:	5~8	Flow control:	RTS/CTS,NONE
Software			
protocol:	ETHERNET, IP, TCP, UDP, HTTP, ARP, ICMP, DHCP, DNS		
Setting method :	ZLVirCom, WEB browser, device management library		
Net communication method:	Socket, Virtual serial , device management library		
Work mode			
TCP server, TCP client, UDP, Real Com Driver			
Power			
Power:	9V DC,< 30 mA		
Environment			
Running temperature:	Commercial	0~70℃	
	industry	-20~85℃	
Storage temp:	-30~85℃		

Humidity:	5~95%RH

1.3. Hardware description

The top view of ZLSN2100 is show in Figure 3.

Panel:

1. ACT: the ACT light indicates if there is data transform between serial and Ethernet.
2. LINK: LINK light indicates if TCP connection is established or in UDP mode. Only when LINK led is lighted, serial & Ethernet transform is possible.
3. POWER.

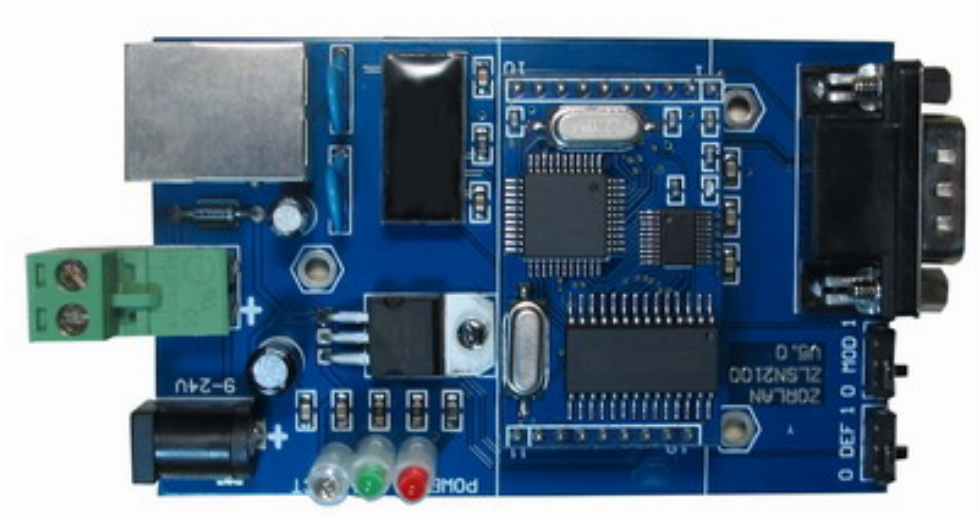

Figure 3

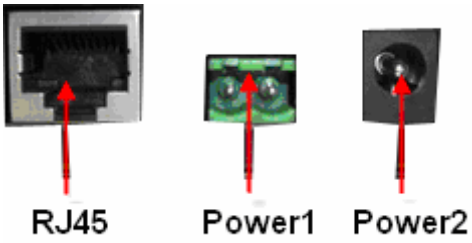

Figure 4

The front view is show in Figure 4.

1. Power2 is a power terminal(right pin is positive); Power1 is a standard power plug-in (inner pin is positive).
2. RJ45 networking interface.

The back view is show in Figure 5:

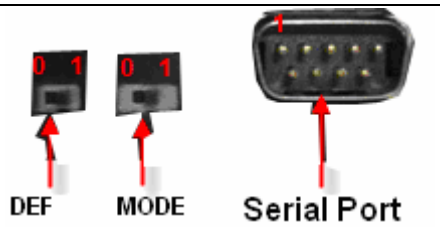

Figure 5

1. DEF switch: When DEF is push to 1, serial server will start with default parameter (default IP is 192.168.1.254)
2. MODE switch: when MODE is push to 1, parameters can be modified.
3. Serial port: The line sequence is show in Table 1:

Table 1

Pin number	**Name**	**Function**
2	RXD	Receiving pin
3	TXD	Sending pin
5	GND	GND
7	RTS	If flow control is enabled, this pin is 0 for serial server can receive data from serial device.
8	CTS	If flow control is enabled, this pin must is 0 for serial server send data to serial device.

2. Support

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