ZLSN5102 User Manual

RS485/232 to TCP/IP Embedded Converter

Document DI: ZL DUI 20121230.1.0

Version Information

The History of the revision to this document:

histroy

Date	Version	Document ID	Revising content
2012-12-30	Rev.1	ZL DUI 20121230.1.0	First release

Copyright information

DIRECTLY

1. Summary

ZLSN5102 is a high performance embedded(non-shell) serial server device. It converts RS485/232 protocol to TCP/IP protocol. It can conveniently let your legend serial device connect to Ethernet and Internet, and upgrade the serial device with networking.

The RS232/RS485 port of ZLSN5102 supports Full-duplex/Half-duplex, uninterrupted communication. It embedded with lightning protection circuits. It supports DHCP, DNS. It supports virtual serial driver, and user's previous PC software using serial communication need not change.

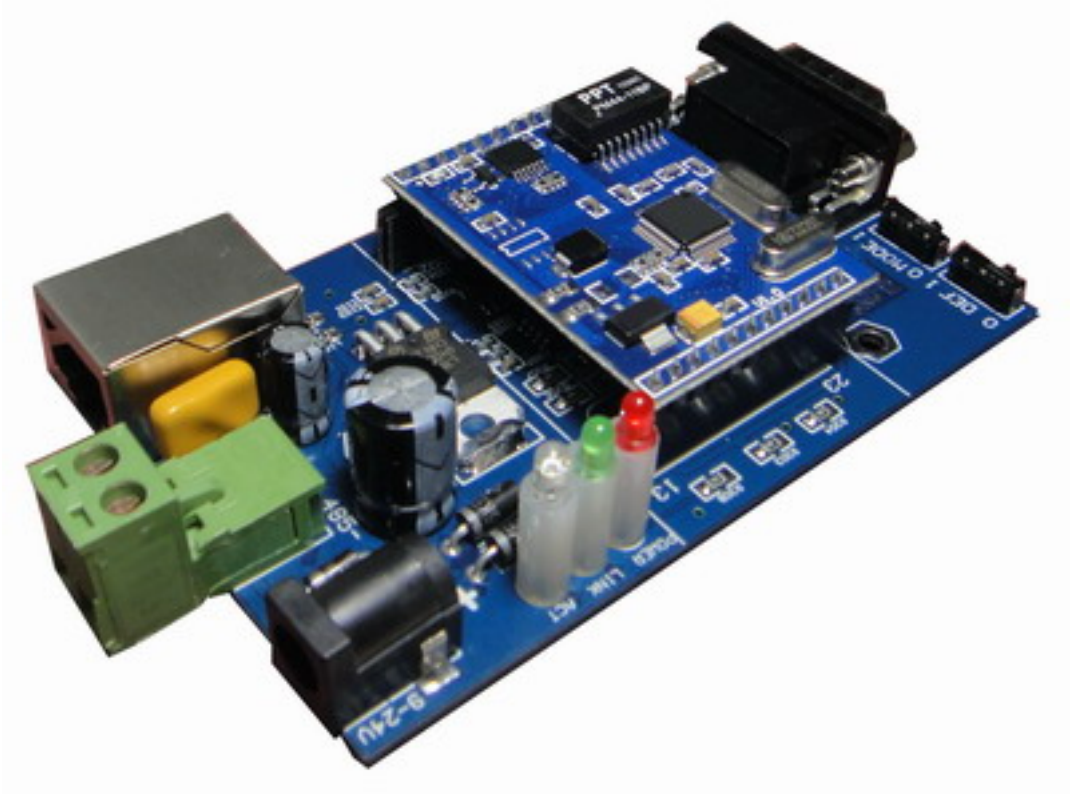


Figure 1 ZLSN5102 converter

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 serial device is connected to ZLSN5102 serial port, and then connects ZLSN5102 to Ethernet.

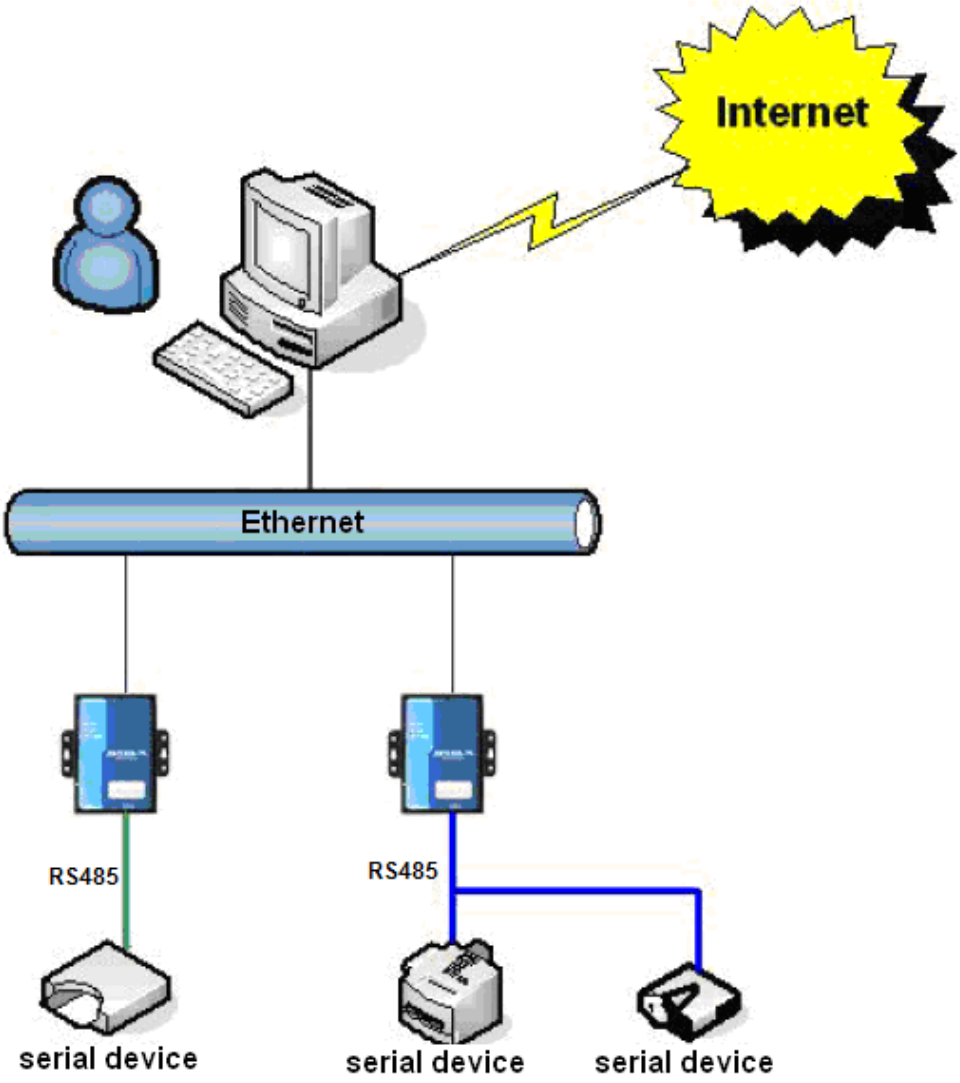


Figure 2

1.1. Feature

1. Support full duplex, high speed converting, and no packet lost.

   ZLSN5102 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.
   ZLSN5102 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 rate 1200~460800bps, 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 ZLSN5102.
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. With build-in Web server, its parameters can be modified by web browser.
9. Support DHCP, easy for IP management and solve IP confliction.
10. Support DNS. It fulfills the need of access data server through domain name.
11. Flexible serial data framing setting. It fulfills all kinds of serial data frame requirement.
12. UDP mode support dynamic destination address mode. It helps for multi-user mange one serial server.
13. 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).
14. Support searching serial servers and modifying parameters through Internet remotely
15. Support parameter modifying protection, preventing modifying by accident. Support running with default parameters.

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

1.2. Technical Parameters

Figure			
Interface:	Serial:DB9 Male for RS232, 2 PIN terminal for RS485; 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	RS485/RS232 x 1:RXD,TXD,GND		
Serial parameters			
Band rate:	1200~460800bps	Parity:	None, Odd, Even, Mark, Space
Data size:	5~9	Flow control:	CTS/RTS,DTR/DSR,XON/XOFF
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:	9~24V DC.		
Environment			
Running temperature:	-40~85℃		
Storage temp:	-40~120℃		
Humidity:	5~95%RH		

1.3. Hardware description

The top view of ZLSN5102 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 Ethernet line is plug in.
3. POWER. power on.

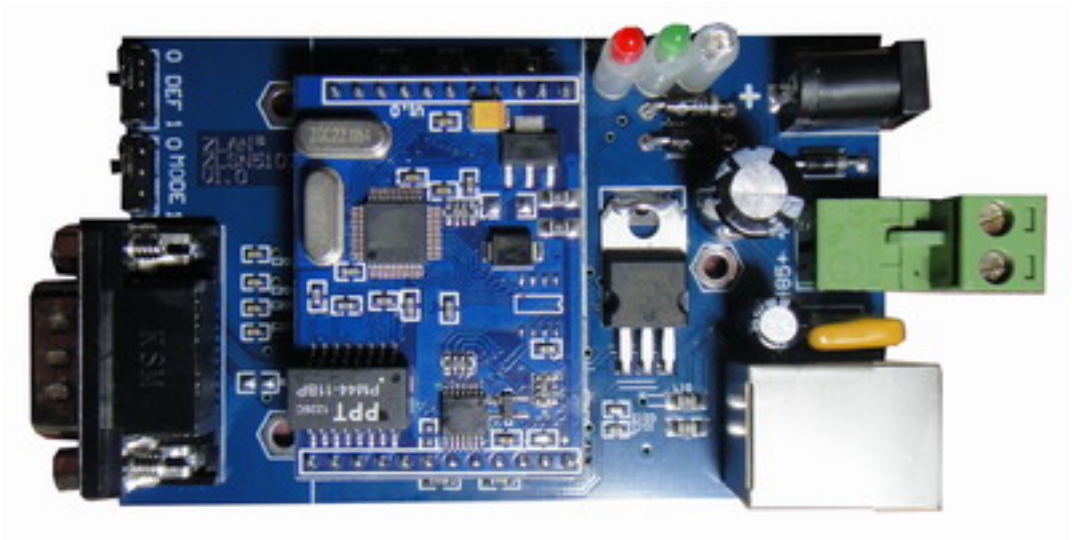


Figure 3

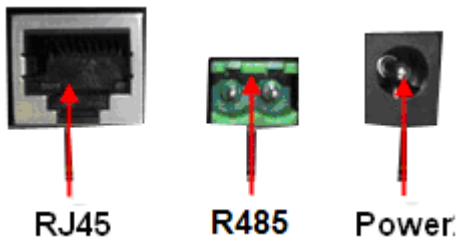


Figure 4

The front view is show in Figure 4.

1. RS845 is used to connect user RS485 device.
2. Power is a standard power plug-in (inner pin is positive).
3. RJ45 networking interface.

The back:

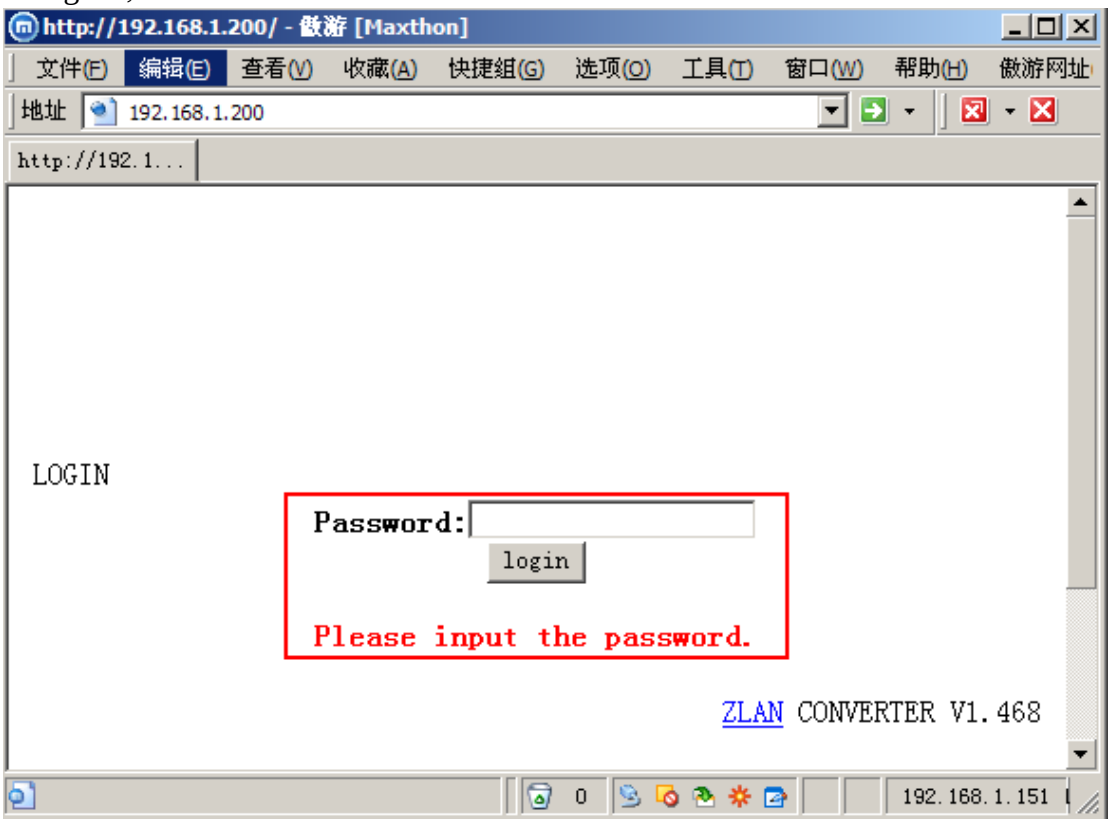
1. DEF switch: When DEF is push to 1, serial server will start with default parameter (default IP is 192.168.1.254)

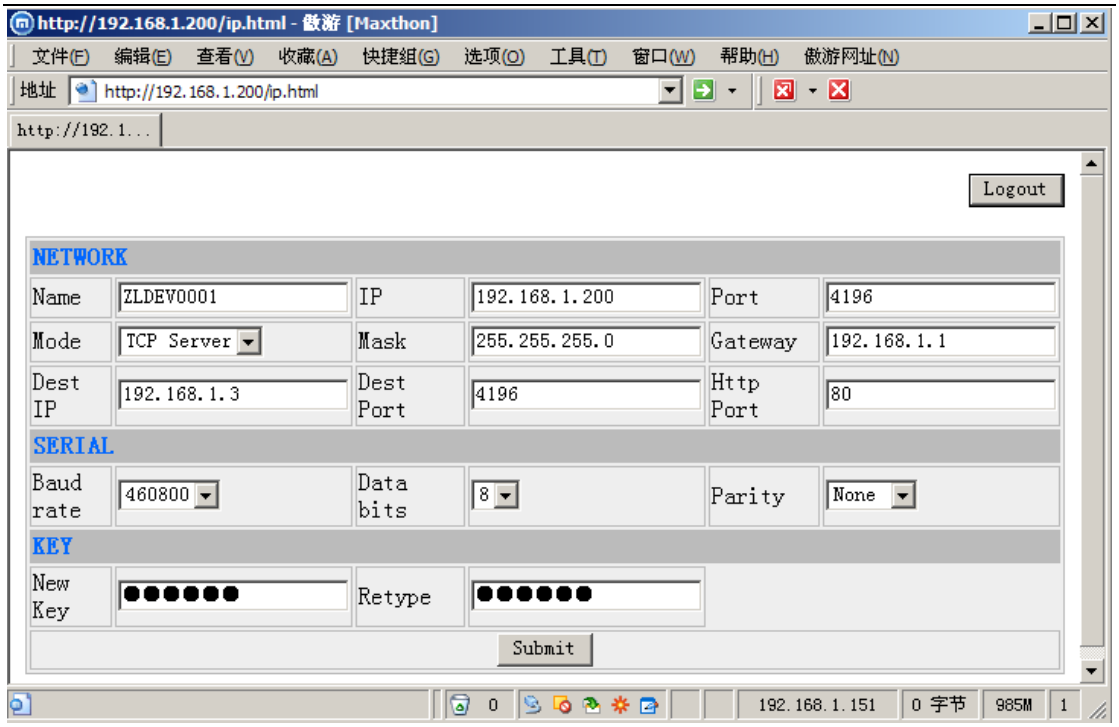
2. RS232 port. DB9 mail interface.

2. Config

2.1. web configuration

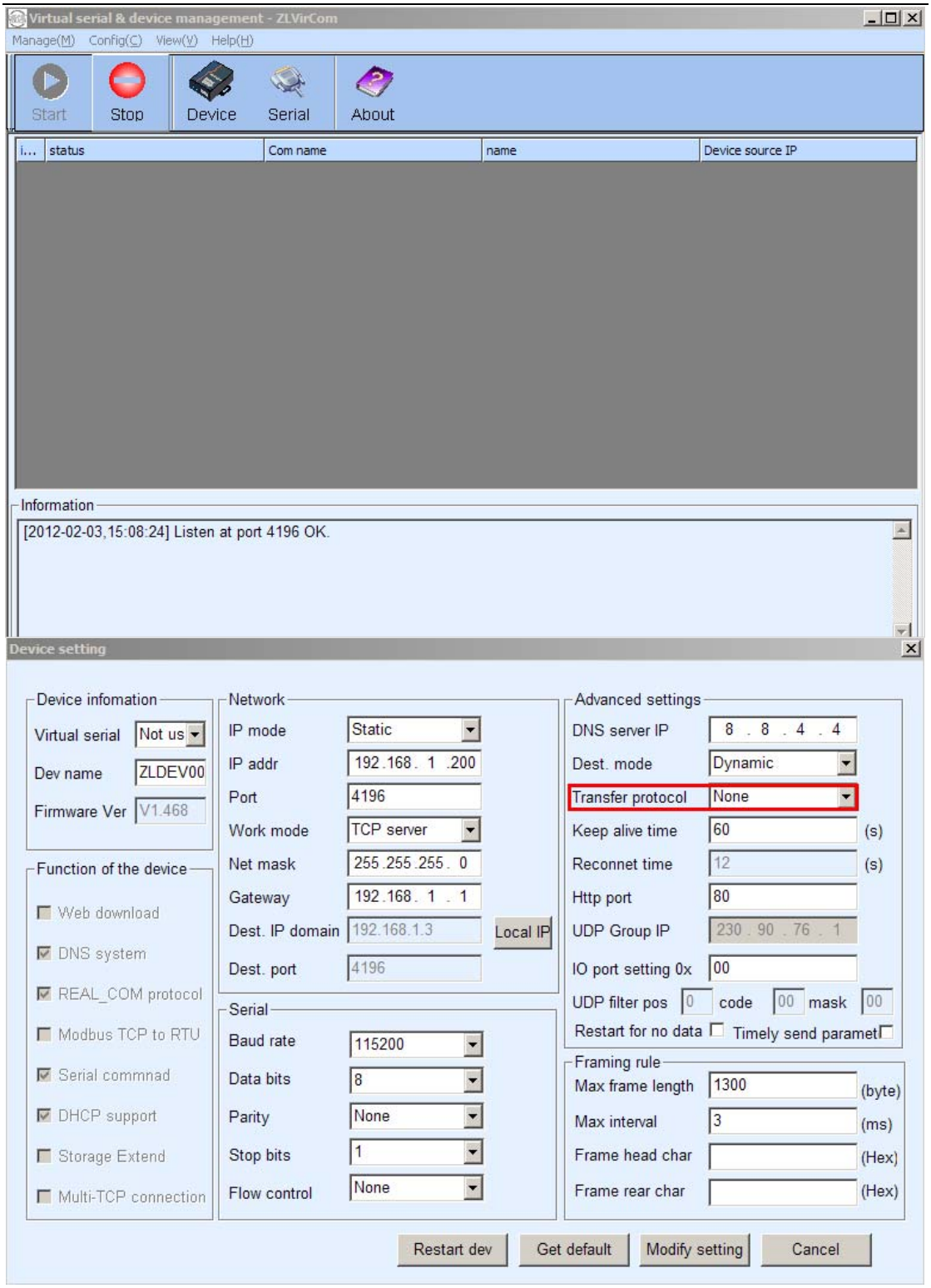
Input the IP of ZLSN5102 in the web browser and open the login web. Input the password of 123456 and login. Then you open a configuration web and you can change IP, baud rate and so on.





2.2. windows tool config

Please run the English version of zlvircom software. Then press Device button. In the next press search button and find the device then press Edit button to edit this device.


Virtual serial & device management - ZLVirCom
Manage(M) Config(C) View(V) Help(H)
Start
Stop
Device
Serial
About
i...
status
Com name
name
Device source IP
Information
[2012-02-03,15:08:24] Listen at port 4196 OK.
Device setting
Device infomation
Virtual serial
Not us
Dev name
ZLDEV00
Firmware Ver
V1.468
Function of the device
Web download
DNS system
REAL_COM protocol
Modbus TCP to RTU
Serial commnad
DHCP support
Storage Extend
Multi-TCP connection
Network
IP mode
Static
IP addr
192.168. 1 .200
Port
4196
Work mode
TCP server
Net mask
255.255.255. 0
Gateway
192.168. 1 . 1
Dest. IP domain
192.168.1.3
Local IP
Dest. port
4196
Serial
Baud rate
115200
Data bits
8
Parity
None
Stop bits
1
Flow control
None
Advanced settings
DNS server IP
8 . 8 . 4 . 4
Dest. mode
Dynamic
Transfer protocol
None
Keep alive time
60
(s)
Reconnet time
12
(s)
Http port
80
UDP Group IP
230 . 90 . 76 . 1
IO port setting 0x
00
UDP filter pos
0
code
00
mask
00
Restart for no data
Timely send paramet
Framing rule
Max frame length
1300
(byte)
Max interval
3
(ms)
Frame head char
(Hex)
Frame rear char
(Hex)
Restart dev
Get default
Modify setting
Cancel

3. Support

Shanghai Zorlan information Co., Ltd.

12 floor D building No. 80 CaoBao road Xuhui District Shanghai City China

Phone: 021-64325189

Fax: 021-64325200

Web: http://www.zlmcu.com

Email: support@zlmcu.com