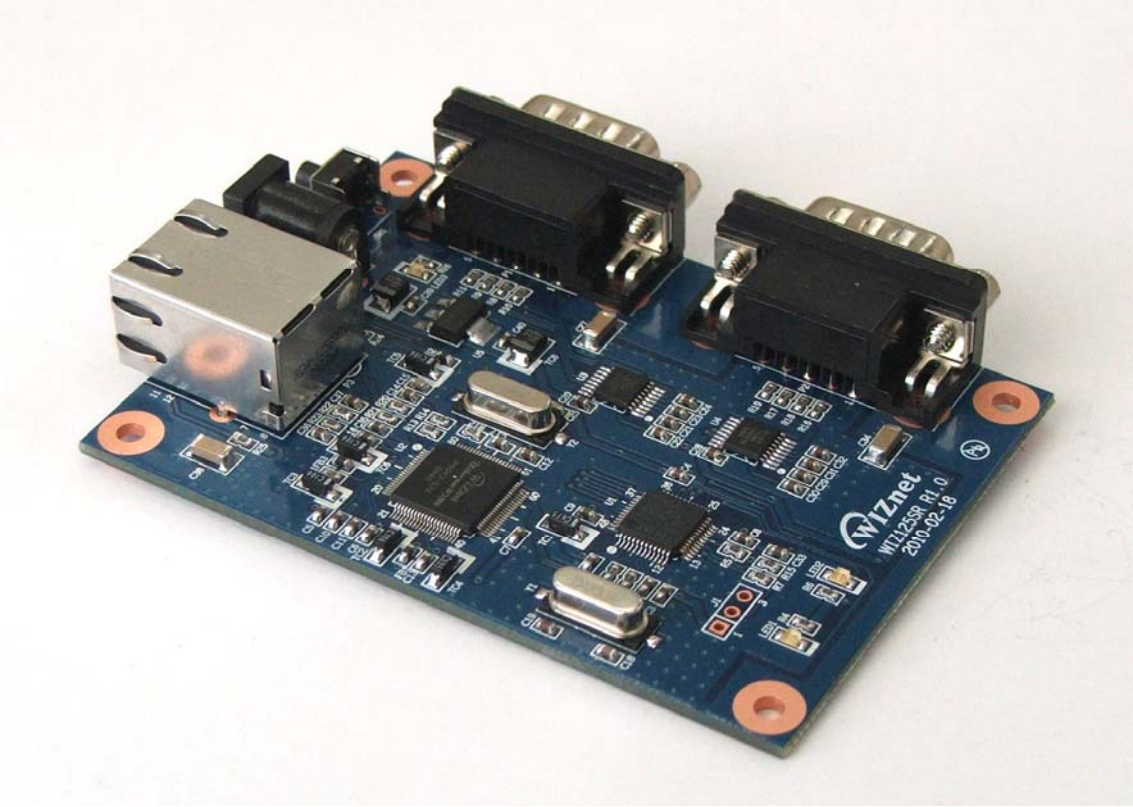
WIZ125SR User Manual

(Version 1.0)



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Document Revision History

Date	Revision	Changes
2010-04-20	V1.0	Official Release

WIZnet's Online Technical Support

If you have any questions about our products, please visit our website and submit your questions on the Q&A Board. We will reply your questions as soon as possible

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1. Introduction

WIZ125SR is a 2 ports gateway module that converts RS-232 protocol into TCP/IP protocol. It enables remote gauging, remote management of the device through the network based on the Ethernet and the TCP/IP by connecting to existing equipments with RS-232 serial interface. In other words, WIZ125SR is a protocol converter that transmits the data sent by serial equipment as TCP/IP data type and converts back the TCP/IP data received through the network into serial data to transmit back to the equipment.

WIZ125SR has been designed by using WIZ120SR module and WIZ120SR-EVB.
Therefore all functions and operations are identical with WIZ120SR module.
Refer to the 'WIZ120SR User Manual' for detail description.

1.1 Key Features

- Direct connection to the serial device
  - Adding network function simply and quickly
  - Providing Firmware customization
- Support 2 Port Serial
- System Stability and Reliability by using W5100 Hardware Chip
- Supports PPPoE Connection
- Support "User Password" function for security
- Supports Serial Configuration – with Simple and Easy command
- Supports Password for the Security
- Configuration Tool Program
- 10/100 Ethernet Interface and max 230Kbps Serial Interface
- Support DNS function
- RoHS Compliant

1.2 Product Specifications

Category	Specification
Protocol	TCP, UDP, IP, ARP, ICMP, IGMP, MAC, DHCP, PPPoE, DNS
Network Interface	10/100 Base-T Ethernet (Auto detection) / RJ-45
Serial Port	RS-232C DB-9 2port
CPU	Cortex-M3 Core
Serial line format	8-N-1, 8-O-1, 8-E-1, 7-O-1, 7-E-1
Serial flow control	None, XON/XOFF, CTS/RTS
Serial signal	TXD, RXD, RTS, CTS, GND
Software	Remote Download and Configuration
Serial Transmission Speed	1200bps ~ 230Kbps
Temperature	0 ~ 70°C (Operating), -40 ~ 85°C (Storage)
Humidity	10~90%
Power	DC 5V, 220mA(MAX)
Size	88.5mm x 65.5mm x 18mm (Include connector size)

Table 1. WIZ125SR Specifications

1.3 WIZ125SR Interface

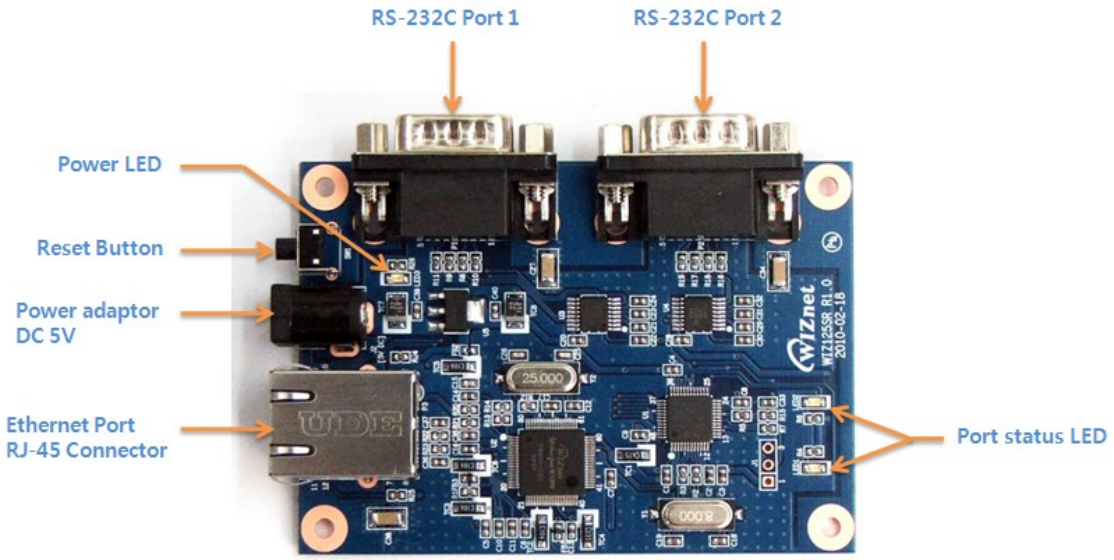


Figure 1. WIZ125SR Interface

2. Serial Configuration

2.1 Serial Command Format

Serial Command is used to set WIZ125SR parameter. This function is using S/W trigger of WIZ125SR, if input specific letters(three characters), you can start configuration mode.

User can set any special character with the configuration tool, and this function support UART 0 only.

Command Frame format

Descriptor	STX	Command code	Parameter	ETX
Length(bytes)	1	2	Variable	1

Table 2. Serial Configuration Frame format

Reply Frame format

Descriptor	STX	Reply code	Parameter	ETX
Length(bytes)	1	1	Variable	1

Table 3. Serial Configuration Reply Frame format

STX & ETX

Setting	Comments
STX	'<' : Hex = 3Ch
ETX	'>' : Hex = 3Eh

Table 4. Serial Configuration STX & ETX

Reply Code

Reply	Comments
S	Command was successful

F	Command failed
0	Invalid STX
1	Invalid command
2	Invalid parameter
3	Invalid ETX
E	Enter Serial Command Mode

Table 5. Serial Configuration Reply Code

Command Code

	Command	Parameter	Comments
Set common parameter	WI	xxx.xxx.xxx.xxx (eg. 192.168.11.133)	Set Local IP
	WS	xxx.xxx.xxx.xxx (eg. 255.255.255.0)	Set Subnet mask
	WG	xxx.xxx.xxx.xxx (eg. 192.168.11.1)	Set Gateway
	WD	0 : Static, 1 : DHCP, 2 : PPPoE	Set the IP configuration method
	WT	0 : Disable, 1 : Enable	Set the serial command method
	WE	xxxxxx (eg. In hex format : 2B 2B 2B)	Set the command mode character
	WY	PPPoE ID	Set PPPoE ID
	WZ	PPPoE Password	Set PPPoE Password
	WR		Restart
Set UART0 parameter	WP	0~65535	Set Local IP's port number for UART0
	WM	0 : TCP Client, 1 : TCP Mixed, 2 : TCP Server	Set the TCP operation mode for UART0
	WK	0 : TCP, 1 : UDP	Set Protocol(TCP or UDP) for UART0
	WB	XXXX eg. [Baudrate]1: 115200, 2: 57600, 3: 38400, 4: 19200, 5: 9600, 6: 4800, 7: 2400,8: 1200 [data byte] 7 : 7bit, 8bit	Set the serial baud rate, data, parity and flow control for UART0. 4bytes:[Baud][data byte][parity][flow]

		[parity] 0 : no parity, 1 : Odd, 2 :Even [Flow] 0 : no, 1 : Xon/Xoff, 2 :RTS/CTS	
	WU	0 : Disable, 1 : Enable	Set DNS option for UART0
	WV	xxx.xxx.xxx.xxx (eg. 255.255.255.0)	Set DNS IP for UART0
	WW	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx (eg. wiznet.co.kr)	Set Domain for UART0
	WX	xxx.xxx.xxx.xxx (eg. 192.168.11.144)	Set server IP address for UART0
	WN	0~65535	Set server port number for UART0
	WC	XX	Set delimiter character in hex for UART0
	WJ	0~255	Set delimiter size for UART0
	WH	0~65535	Set delimiter time for UART0
	WL	0~65535	Set Inactivity timer value for UART0
Set UART1 parameter	OP	0~65535	Set Local IP's port number for UART1
	OM	0 : TCP Client, 1 : TCP Mixed, 2 : TCP Server	Set the TCP operation mode for UART1
	OK	0 : TCP, 1 : UDP	Set Protocol(TCP or UDP) for UART1
	OB	XXXX eg. [Baudrate]1: 115200, 2: 57600, 3: 38400, 4: 19200, 5: 9600, 6: 4800, 7: 2400,8: 1200 [data byte] 7 : 7bit, 8bit [parity] 0 : no parity, 1 : Odd, 2 :Even [Flow] 0 : no, 1 : Xon/Xoff, 2 :RTS/CTS	Set the serial baud rate, data, parity and flow control for UART1. 4bytes:[Baud][data byte][parity][flow]
	OU	0 : Disable, 1 : Enable	Set DNS option for UART1
	OV	xxx.xxx.xxx.xxx (eg. 255.255.255.0)	Set DNS IP for UART1
	OW	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx (eg. wiznet.co.kr)	Set Domain for UART1
	OX	xxx.xxx.xxx.xxx (eg. 192.168.11.144)	Set server IP address for UART1
	ON	0~65535	Set server port number for UART1

	OC	XX	Set delimiter character in hex for UART1
	OJ	0~255	Set delimiter size for UART1
	OH	0~65535	Set delimiter time for UART1
	OL	0~65535	Set Inactivity timer value for UART1
Get common parameter	RA	MAC Address	Get MAC Address
	RF	x.x (eg. 1.0)	Get the firmware version
	RI	IP Address	Get Local IP
	RS	Subnet Mask	Get Subnet mask
	RG	Gateway address	Get Gateway
	RD	0 : Static, 1 : DHCP, 2 : PPPoE	Get the IP configuration method
	RT	0 : Disable, 1 : Enable	Get the serial command method
	RE	xxxxxx (eg. In hex format : 2B 2B 2B)	Get the command mode character
	RY	PPPoE ID	Get PPPoE ID
	RZ	PPPoE Password	Get PPPoE Password
Get UART0 parameter	RP	Local Port Number	Get Local IP's port number for UART0
	RM	0 : TCP Client, 1 : TCP Mixed, 2 : TCP Server	Get the operation mode for UART0
	RK	0 : TCP, 1 : UDP	Get the Protocol for UART0
	RB	XXXX eg. [Baudrate]1: 115200, 2: 57600, 3: 38400, 4: 19200, 5: 9600, 6: 4800, 7: 2400,8: 1200 [data byte] 7 : 7bit, 8bit [parity] 0 : no parity, 1 : Odd, 2 :Even [Flow] 0 : no, 1 : Xon/Xoff, 2 :RTS/CTS	Get the UART0 baud rate
	RU	0 : Not use , 1 : Use	Get DNS option for UART0
	RV	IP address	Get DNS IP for UART0
	RW	Domain name	Get Domain Name for UART0
	RX	xxx.xxx.xxx.xxx (eg. 192.168.11.144)	Get the server IP address for UART0

	RN	0~65535	Get the server port number for UART0
	RC	XX	Get delimiter character in hex for UART0
	RJ	0~255	Get delimiter size for UART0
	RH	0~65535	Get delimiter time for UART0
	RL	0~65535	Get Inactivity timer value for UART0
Get UART1 parameter	QP	Local Port Number	Get Local IP's port number for UART1
	QM	0 : TCP Client, 1 : TCP Mixed, 2 : TCP Server	Get the operation mode for UART1
	QK	0 : TCP, 1 : UDP	Get the Protocol for UART1
	OB	XXXX eg. [Baudrate]1: 115200, 2: 57600, 3: 38400, 4: 19200, 5: 9600, 6: 4800, 7: 2400,8: 1200 [data byte] 7 : 7bit, 8bit [parity] 0 : no parity, 1 : Odd, 2 :Even [Flow] 0 : no, 1 : Xon/Xoff, 2 :RTS/CTS	Set the serial baud rate, data, parity and flow control for UART1. 4bytes:[Baud][data byte][parity][flow]
	QU	0 : Not use , 1 : Use	Get DNS option for UART1
	QV	IP address	Get DNS IP for UART1
	QW	Domain name	Get Domain Name for UART1
	QX	xxx.xxx.xxx.xxx (eg. 192.168.11.144)	Get the server IP address for UART1
	QN	0~65535	Get the server port number for UART1
	QC	XX	Get delimiter character in hex for UART1
	QJ	0~255	Get delimiter size for UART1
	QH	0~65535	Get delimiter time for UART1
	QL	0~65535	Get Inactivity timer value for UART1

Table 6. Serial Configuration Command Code

2.2 WIZ125SR Configuration with Serial Command

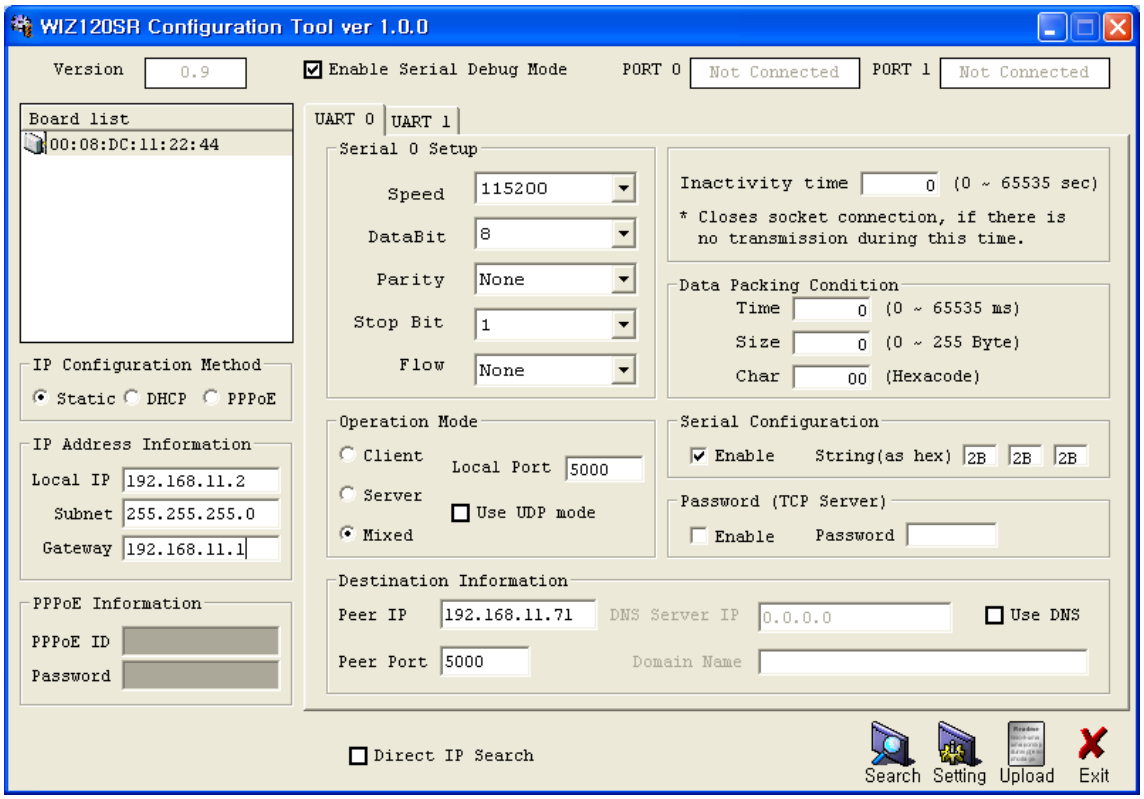


Figure 2. Serial Configuration enable setting

① Check WIZ125SR Firmware version. If version is lower, download the latest firmware from download page of http://www.wiznet.co.kr, Serial configuration function is support firmware version 2.5 or later.

② Connect the serial cable to 'UART 0'.

③ Input any three characters for the serial command mode trigger (in above Figure, 2B, 2B, 2B are input) As above Figure, click 'Enable check box' of serial configuration and save the 'Setting' button. String fact for entering configuration mode is '+++' ('+' : 0x2B)

④ If you finish enable setting, you can test as below procedure. This procedure is 'checking module IP and change to other IP address'

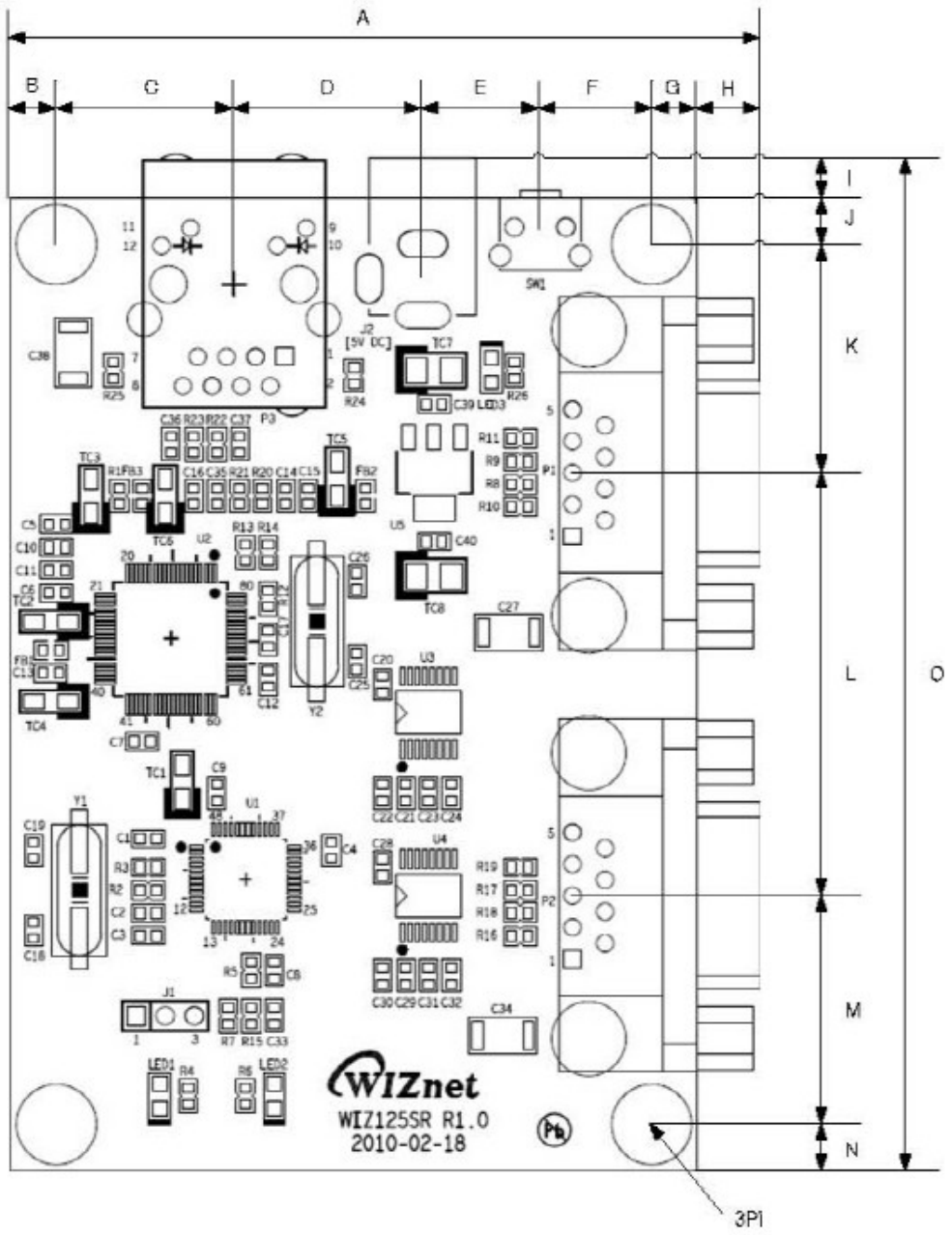
1	Input "+++"	Enter Serial Configuration mode
2	"<E>" Check Answer	Notice Access Success
3	"<WI192.168.11.3>" input	Change module IP to 192.168.11.3

4	"<S>" Check answer	Notice success IP setting
5	"<RI>" input	check module IP address
6	"<S192.168.11.3>" Check answer	check the changed module IP address
7	"<WR>" input	reboot
8	"<S>" check answer	Notice success of reboot command
9	Module reboot	

Table 7. Serial Configuration Test Procedure

3. Hardware Specification

3.1 WIZ125SR Dimension

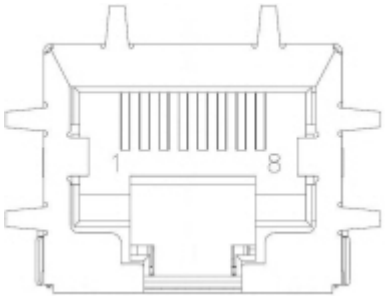


A	65.5	B	4.0	C	15.5	D	16.5
E	10.5	F	9.5	G	4.0	H	5.5
I	3.5	J	4.0	K	20.0	L	37.0
M	20.0	N	4.0	O	88.5		

Figure 3. WIZ125SR Dimensions (unit : mm)

3.2 Connector Specification

3.2.1 RJ-45 Connector



Pin	Signal
1	TX+
2	TX-
3	RX+
6	RX-

Figure 4. RJ-45 PIN Assignment

3.2.2 DB-9 Connector

Pin Number	Signal	Description
1	-	
2	RXD1 / RXD2	Receive Data for Port 1 & Port 2
3	TXD1 / TXD2	Transmit Data for Port 1 & Port 2
4	-	
5	GND	System Ground
6	-	
7	RTS1 / RTS2	Request To Send for Port 1 & Port 2
8	CTS1 / CTS2	Clear To Send for Port 1 & Port 2
9	-	

Table 8. DB-9 RS-232C Connector PIN-Assignment

4. Warranty

WIZnet Co., Ltd offers the following limited warranties applicable only to the original purchaser. This offer is non-transferable.

WIZnet warrants our products and its parts against defects in materials and workmanship under normal use for period of standard ONE(1) YEAR for the WIZ125SR board and labor warranty after the date of original retail purchase. During this period, WIZnet will repair or replace a defective products or part free of charge.

Warranty Conditions:

1. The warranty applies only to products distributed by WIZnet or our official distributors.
2. The warranty applies only to defects in material or workmanship as mentioned above in 6.Warranty. The warranty applies only to defects which occur during normal use and does not extend to damage to products or parts which results from alternation, repair, modification, faulty installation or service by anyone other than someone authorized by WIZnet Inc. ; damage to products or parts caused by accident, abuse, or misuse, poor maintenance, mishandling, misapplication, or used in violation of instructions furnished by us ; damage occurring in shipment or any damage caused by an act of God, such as lightening or line surge.

Procedure for Obtaining Warranty Service

1. Contact an authorized distributors or dealer of WIZnet Inc. for obtaining an RMA (Return Merchandise Authorization) request form within the applicable warranty period.
2. Send the products to the distributors or dealers together with the completed RMA request form. All products returned for warranty must be carefully repackaged in the original packing materials.
3. Any service issue, please contact to sales@wiznet.co.kr