

Application Note

# TCP Server/Client mode

Version 1.1

2011-09-21



Sollae Systems Co., Ltd

<http://www.sollae.co.kr>

# Contents

<b>Contents</b> .....	<b>- 1 -</b>
<b>1 Overview</b> .....	<b>- 2 -</b>
1.1 Overview .....	- 2 -
1.2 Application Examples.....	- 3 -
1.2.1 <i>Emergency Notification</i> .....	- 3 -
1.2.2 <i>Bypass connection</i> .....	- 3 -
1.3 Available Products.....	- 4 -
<b>2 Setting</b> .....	<b>- 5 -</b>
2.1 Setting with the ezManager .....	- 5 -
2.1.1 <i>Parameters</i> .....	- 5 -
2.1.2 <i>An Example of Setting</i> .....	- 6 -
<b>3 Operation</b> .....	<b>- 8 -</b>
<b>4 History</b> .....	<b>- 10 -</b>



# 1 Overview

## 1.1 Overview

Both server and client are needed to establish TCP connection. The TCP server waits requests from clients and the TCP client send request segments to servers. All the ezTCP series support both connection modes. But the changing values of the environmental parameter should be done before switch the other mode.

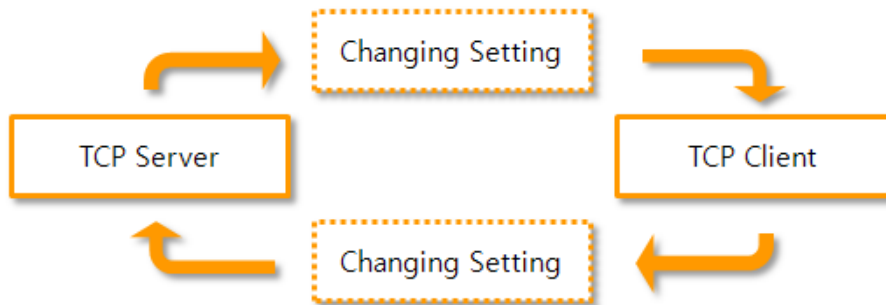


Fig 1-1 previous mode conversion

By using the TCP server/client mode, you don't have to bother to change the setting in every time. This mode allows ezTCP to perform as a TCP server or client without any changing the setting.



Fig 1-2 mode conversion in TCP server/client mode

***☞ In this mode, just one host can be connected with ezTCP at the same time. Note that no matter which mode is used, if the ezTCP is already connected a host, any other host are not possible to establish connection with it.***

## 1.2 Application Examples

### 1.2.1 Emergency Notification

In case that a control center connects to a remote device in usual but connection request from the device to the center is required in an emergency.

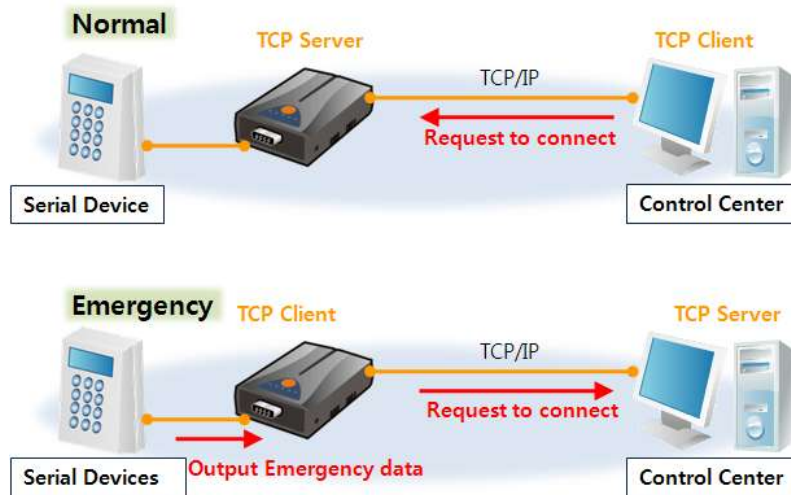


Fig 1-3 an emergency notification system

### 1.2.2 Bypass connection

In case that a device connects a designated control center in usual but connection from another center to the device is needed when the connection is unreachable to the designated center.

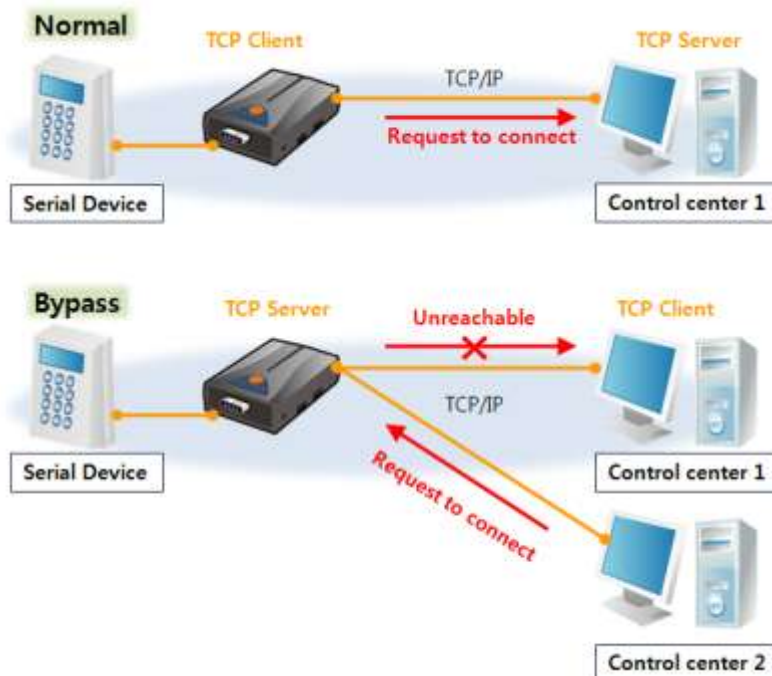


Fig 1-4 a bypass connection system

### 1.3 Available Products

Even the same models, the mode can be supported or not according to the version of firmware. Refer to the follow table. (Sep, 2011)

Table 1-1 list of available products

Model	Support	Version of F/W	Note
CSE-M73	○	1.5A~	-
CSE-H25	○	1.5A~	-
CIE-M10	○	1.3E~	-
CIE-H10	○	1.3E~	-
CSE-M53	○	1.0A~	-
CSE-H53	○	1.0A~	
CSE-H55	○	1.0B~	
CSE-M32	○	1.3C~	
CSE-H20	○	1.3C~	
CSE-H21	○	1.3C~	
CSW-H80	○	1.1H~	
CSW-M83	○	1.0C~	
CSW-M85	○	1.0D~	Will be introduced soon
CSW-H85	○	1.0D~	

## 2 Setting

### 2.1 Setting with the ezManager

#### 2.1.1 Parameters

TCP server/client mode can be configured by the ezManager. Related parameters with the mode and descriptions are followed.

Table 2-1 related parameters

Item	Description	Note
Communication Mode	basic TCP/IP communication modes	TCP Client
Peer Address	an address of remote peer host	-
Peer Port	a local port number of remote peer host	-
Local Port	a local port number of ezTCP	-
TCP Server	check box for enabling TCP server/client mode	check(required)
Event Byte	Size of serial data for sending connection request	unit: Byte
Timeout	Amount of time for terminating connection	unit: sec

- Communication mode  
To use the TCP server/client mode, you should select the TCP client (COD) in this parameter.
- Peer Address  
This item means a host name or an IP address of a remote server when ezTCP operates as a TCP client.  
Ex) 10.1.0.2 or [www.sollae.co.kr](http://www.sollae.co.kr)
- Peer Port  
This item means the local port number of remote server when ezTCP operates as a TCP client.
- Local Port  
Local port is a port number which is opened to establish TCP connection when ezTCP operates as a TCP server

- TCP Server

This check box will be activated when you select [COD – TCP Client] in the [Communication Mode] item. You have to check this option to use the TCP server/client mode.

- Event Byte

In case of a TCP client, ezTCP sends a request segment for TCP connection to the server only if the number of data comes more than the value of this item from the serial port. If this value is set to 0, ezTCP send the request segment right after it boots up.

- Timeout

While TCP connection is established, if the amount of time as this value is passed, ezTCP terminate the connection. Basically, TCP connection can be established 1 to 1. Because of this, if ezTCP is already connected with a host, any other hosts can't make connection with the ezTCP at that time. By properly using this parameter, you can disconnect with a host which doesn't communicate anymore and accept connection requests from another host.

*☞ You can misunderstand that ezTCP is capable of make connection with two other hosts in the TCP Server/Client mode but that is impossible. To avoid failure in making TCP connection, you have to set the [Timeout] to a proper value considering features of your data communication system.*

## 2.1.2 An Example of Setting

For easy understanding this mode, an example of a simple situation that your PC is connected with ezTCP is followed.

- Setting values in each parameter

Table 2-2 example values of each parameter

Item	Value
Communication Mode	TCP Client
Local IP Address	10.1.0.1
Peer Address	10.1.0.2
Peer Port	1470
Local Port	1470
TCP Server	Check
Event Byte	10 Bytes
Timeout	25 seconds

- Setting Procedure

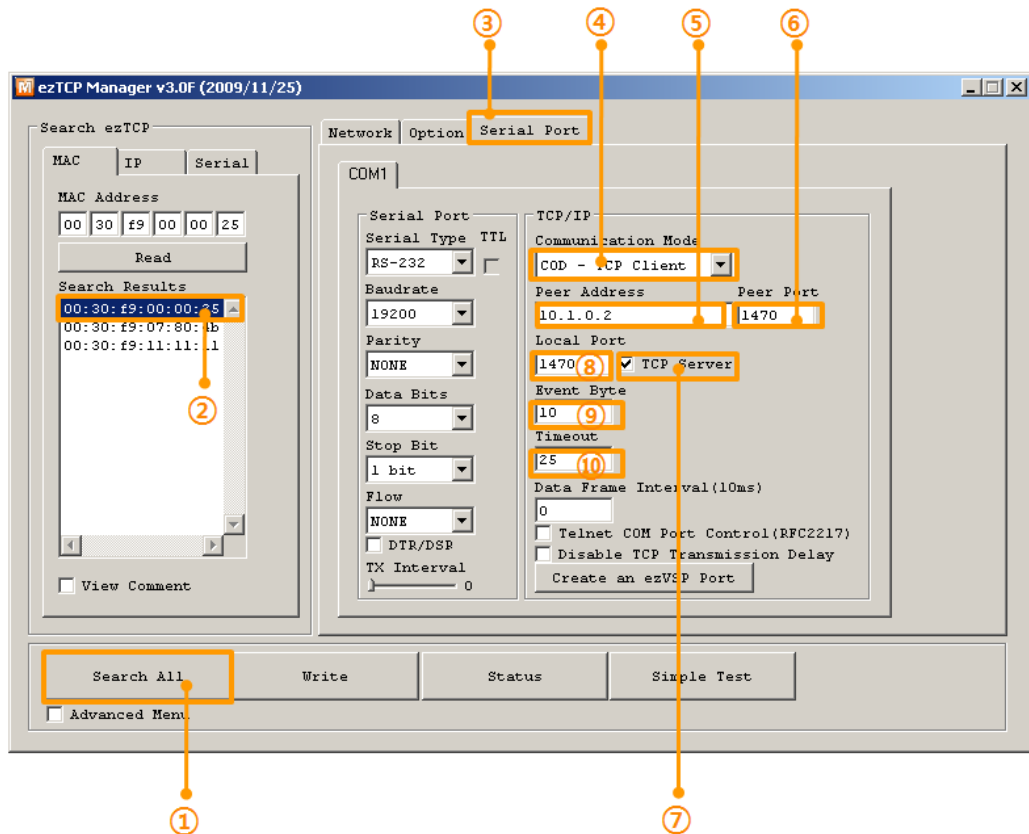


Fig 2-1 setting procedure with ezManager

- ① Run ezManager and press the [Search All] button
- ② Select your ezTCP in the [Search Result] box
- ③ Move to the [Serial Port] tab
- ④ Choose the [COD – TCP Client] mode
- ⑤ Input the IP address of your PC in the [Peer Address] box
- ⑥ Input the port number of your PC
- ⑦ Check the [TCP Server] check box
- ⑧ Input the local port number of ezTCP
- ⑨ Set the [Event Byte] to 10 bytes
- ⑩ Set the [Timeout] to 25 seconds



### 3 Operation

If you were done above setting procedure of 2.1.2 An Example of Setting (Event Byte: 10, Timeout: 25), ezTCP will operate like below figure.

- The time chart

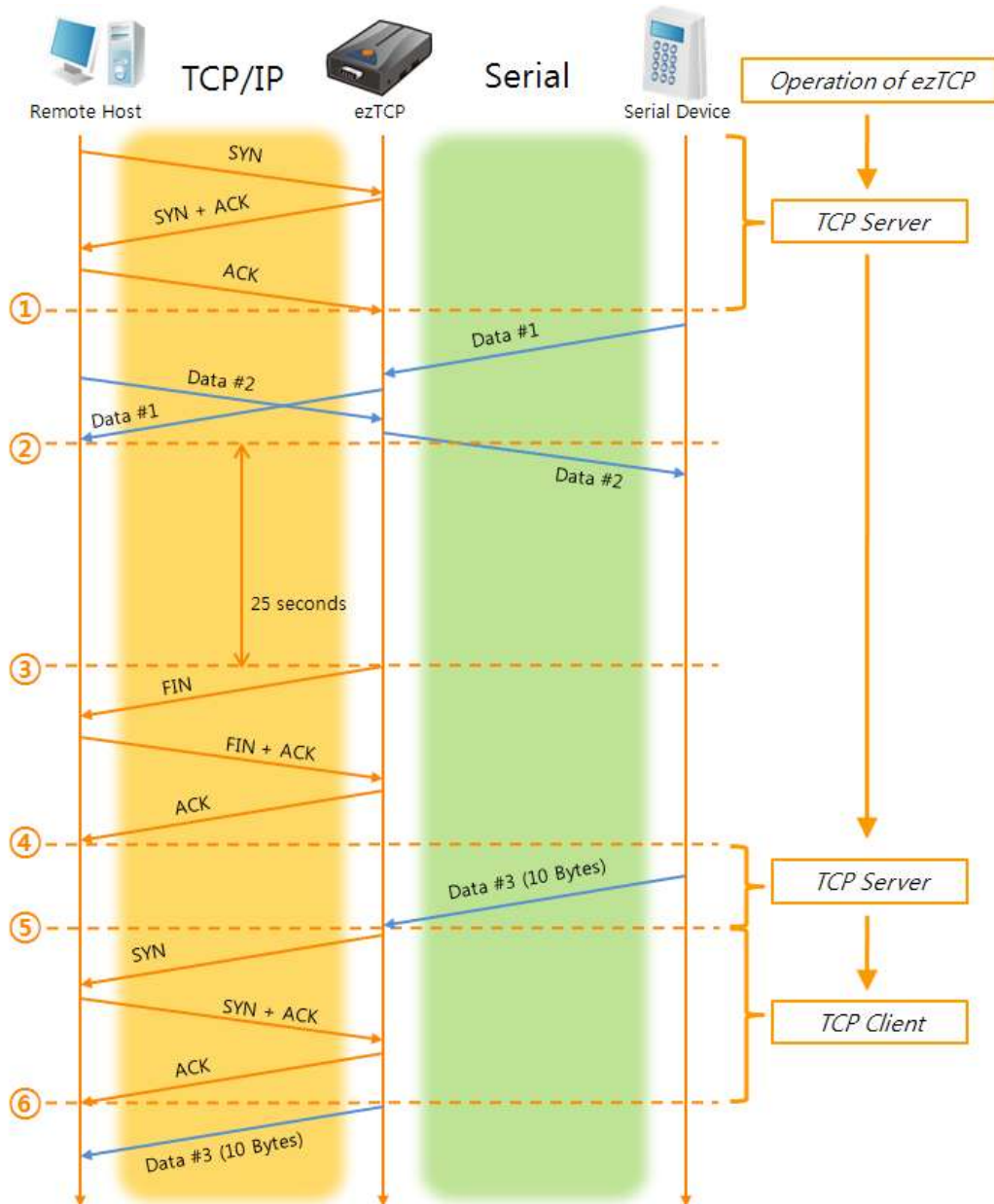


Fig 3-1 the time chart

- Status in each point of time

Table 3-1 status in each point of time

Point	Status
~	<ul style="list-style-type: none"> <li>○ <b>ezTCP operates as a TCP server (10.1.0.1: 1470)</b></li> <li>○ The remote host requests to connect to the ezTCP (→ 10.1.0.1: 1470)</li> </ul>
①	<ul style="list-style-type: none"> <li>○ TCP connection has been established</li> </ul>
~	<ul style="list-style-type: none"> <li>○ Data communication in both direction (TCP/IP ↔ Serial)</li> </ul>
②	<ul style="list-style-type: none"> <li>○ Point of time which the last TCP segment has arrived</li> </ul>
~	<ul style="list-style-type: none"> <li>○ There is no data communication after the ② point</li> </ul>
③	<ul style="list-style-type: none"> <li>○ <b>25 seconds later, ezTCP try to terminate TCP connection</b></li> </ul>
~	<ul style="list-style-type: none"> <li>○ Process for terminating TCP connection</li> </ul>
④	<ul style="list-style-type: none"> <li>○ The TCP connection has been terminated</li> </ul>
~	<ul style="list-style-type: none"> <li>○ <b>ezTCP operates as a TCP server again (10.1.0.1: 1470)</b></li> </ul>
⑤	<ul style="list-style-type: none"> <li>○ 10 bytes of data have come from serial port</li> <li>○ <b>ezTCP operates as a TCP client</b></li> <li>○ ezTCP send a connection request segment to the remote host. (→ 10.1.0.2: 1470)</li> </ul>
~	<ul style="list-style-type: none"> <li>○ Process for establishing TCP connection</li> </ul>
⑥	<ul style="list-style-type: none"> <li>○ TCP connection has been established</li> </ul>
~	<ul style="list-style-type: none"> <li>○ <b>Data #3 have been sent to the host right after the ⑥ point</b></li> <li>○ Data communication in both direction (TCP/IP ↔ Serial)</li> </ul>

## 4 History

Date	Version	Note	Author
2009. 11. 27	1.0	○ Created	Roy LEE
2011. 09. 21	1.1	○ Modify Available Products	Andy LEE

