



Application Note

Separator Function

Version 1.1

☞ ***Caution: Specifications of the product's functions may be changed without prior notice.***

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Contents

1 OVERVIEW	- 2 -
1.1 Definition	- 2 -
1.2 Operation.....	- 3 -
1.3 Configuration Parameters	- 3 -
2 EXAMPLES	- 4 -
2.1 Example 1	- 4 -
2.2 Example 2	- 4 -
2.3 Example 3	- 5 -
3 REVISION HISTORY	- 6 -

1 Overview

1.1 Definition

Separator function is a value that is used when ezTCP separates TCP segments before sending them to network. Because TCP is a reliable stream delivery service, in fact, it is not important that how the segments are divided. However, some legacy application needs the separation. By using this separator function, users can separate TCP segments based on frames of serial data protocol.

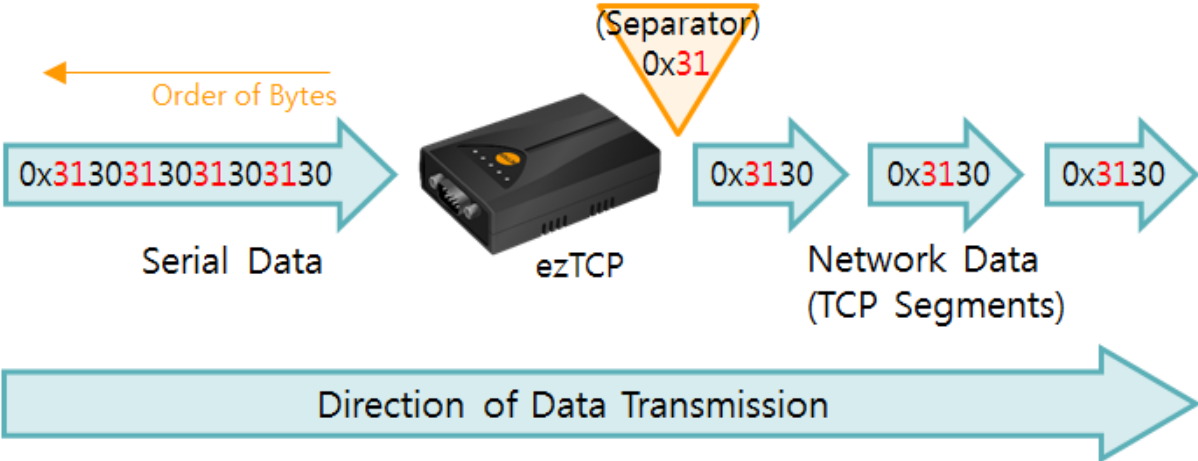


Figure 1-1 definition of separator

1.2 Operation

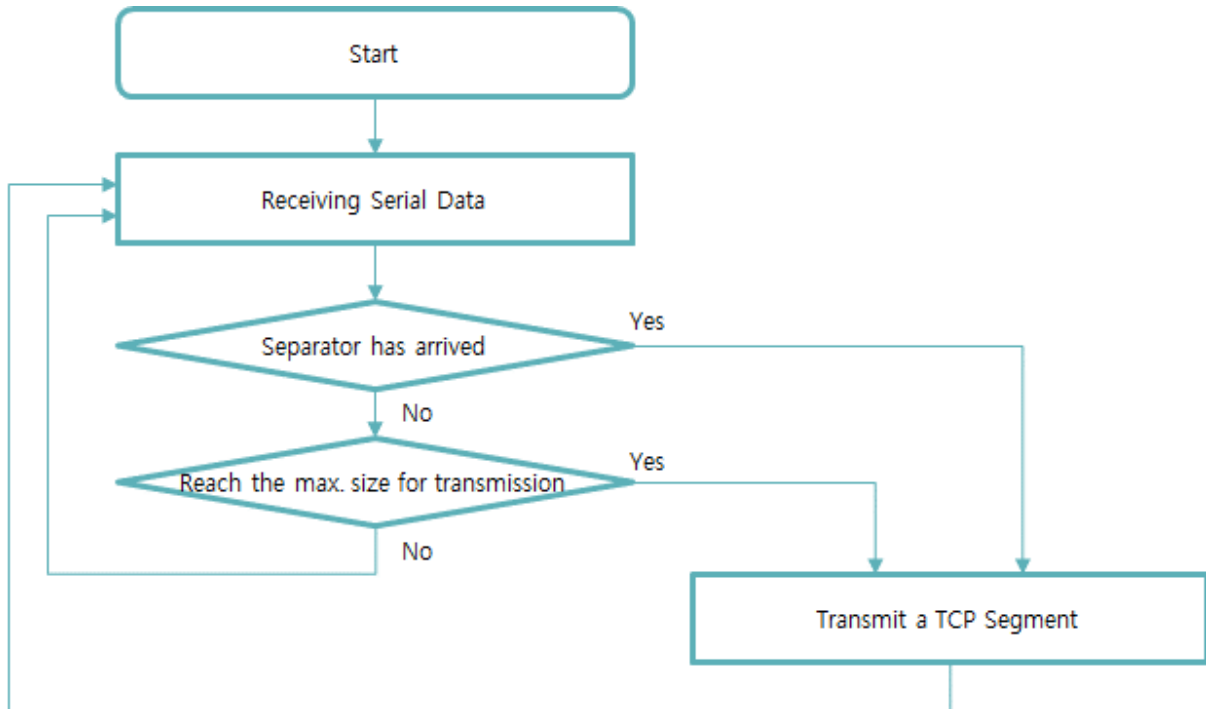


Figure 1-2 flow chart of separator function

1.3 Configuration Parameters

Separator function is set by ezManager.

Separator

Separator Length	Separator(HEX)
<input style="width: 90%; border: 1px solid #ccc;" type="text" value="4"/>	<input style="width: 20%; border: 1px solid #ccc;" type="text" value="00"/> <input style="width: 20%; border: 1px solid #ccc;" type="text" value="00"/> <input style="width: 20%; border: 1px solid #ccc;" type="text" value="00"/> <input style="width: 20%; border: 1px solid #ccc;" type="text" value="00"/>
Separator Operation	
<input style="width: 95%; border: 1px solid #ccc;" type="text" value="Transmit Separators + 2 Bytes"/>	

Figure 1-3 configuration parameters

- Separator(HEX): Hexadecimal value for separating TCP segments
- Separator Length: Size of byte, option: 1 ~ 4 bytes
- Separator Operation: Operation of separating data frame

☞ Separator function is only available on TCP.

2 Examples

2.1 Example 1

- ezTCP setting

Division		Value
Separator	Length	1
	Hexadecimal	0x00
	Operation	Transmit Separators

Table 2-1 ezTCP setting of example 1

- Received Serial Data: 8 bytes

#1	#2	#3	#4	#5	#6	#7	#8
0x30	0x31	0x00	0x32	0x33	0x00	0x34	0x00

- TCP Segments for transmission: 3 segments

#1-1	#1-2	#1-3
0x30	0x31	0x00
#2-1	#2-2	#2-3
0x32	0x33	0x00
#3-1	#3-2	
0x34	0x00	

2.2 Example 2

- ezTCP setting

Division		Value
Separator	Length	1
	Hexadecimal	0x00
	Operation	Transmit Separators + 1 Byte

Table 2-2 ezTCP setting of example 2

- Received Serial Data: 8 bytes

#1	#2	#3	#4	#5	#6	#7	#8
0x30	0x31	0x00	0x32	0x33	0x34	0x00	0x35

- TCP Segments for transmission: 2 segments

#1-1	#1-2	#1-3	#1-4
0x30	0x31	0x00	0x32
#2-1	#2-2	#2-3	#2-4
0x33	0x34	0x00	0x35

2.3 Example 3

- ezTCP setting

Division		Value
Separator	Length	3
	Hexadecimal	0x00FF00
	Operation	Transmit Separators

Table 2-3 ezTCP setting of example 3

- Received Serial Data: 32 bytes

#1	#2	#3	#4	#5	#6	#7	#8
0x30	0x31	0x32	0x33	0x00	0xFF	0x00	0x34
#9	#10	#11	#12	#13	#14	#15	#16
0x35	0x36	0x37	0x00	0xFF	0x00	0x38	0x39
#17	#18	#19	#20	#21	#22	#23	#24
0x30	0x31	0x00	0xFF	0x00	0x32	0x33	0x34
#25	#26	#27	#28	#29	#30	#31	#32
0x35	0x00	0xFF	0x00	0x36	0x37	0x38	0x39

- TCP segments for transmission: 4 segments

#1-1	#1-2	#1-3	#1-4	#1-5	#1-6	#1-7
0x30	0x31	0x32	0x33	0x00	0xFF	0x00
#2-1	#2-2	#2-3	#2-4	#2-5	#2-6	#2-7
0x34	0x35	0x36	0x37	0x00	0xFF	0x00
#3-1	#3-2	#3-3	#3-4	#3-5	#3-6	#3-7
0x38	0x39	0x30	0x31	0x00	0xFF	0x00
#4-1	#4-2	#4-3	#4-4	#4-5	#4-6	#4-7
0x32	0x33	0x34	0x35	0x00	0xFF	0x00

- Data left in the buffer

Data left in the buffer are not transmitted to the network until next separator arrives.

#29	#30	#31	#32
0x36	0x37	0x38	0x39

3 Revision History

Date	Version	Description	Author
2013.09.24.	1.0	○ created	Roy LEE
2018.02.09.	1.1	○ remove available products	Roy LEE