

# Separating data in byte units

## WTOB(P)

FX5S

FX5UJ

FX5U

FX5UC

These instructions separate the 16-bit binary data in the device numbers starting from the one specified by (s) onwards into (n) byte units, and store the separated data in the device number specified by (d) onwards.

Ladder diagram	Structured text
	<pre>ENO:=WTOB(EN,s,n,d); ENO:=WTOBP(EN,s,n,d);</pre>
FBD/LD	

## Setting data

### ■Descriptions, ranges, and data types

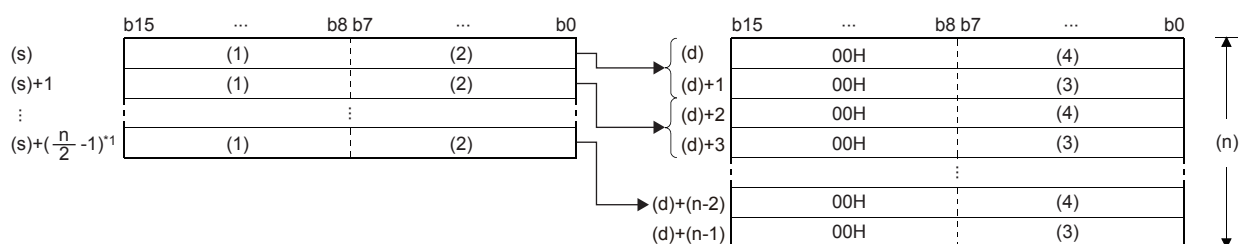
Operand	Description	Range	Data type	Data type (label)
(s)	Head device where the separation target data is stored	—	16-bit signed binary	ANY16
(d)	Head device for storing the result of separation in byte unit	—	16-bit signed binary	ANY16
(n)	Number of byte units	0 to 65535	16-bit unsigned binary	ANY16
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

### ■Applicable devices

Operand	Bit	Word			Double word		Indirect specification	Constant			Others
	X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC	LZ		K, H	E	\$	
(s)	—	○	—	—	—	—	○	—	—	—	—
(d)	—	○	—	—	—	—	○	—	—	—	—
(n)	○	○	○	○	—	—	○	○	—	—	—

## Processing details

- These instructions separate the 16-bit binary data in the device numbers starting from the one specified by (s) onwards into (n) byte units, and store the separated data in the device number specified by (d) onwards.

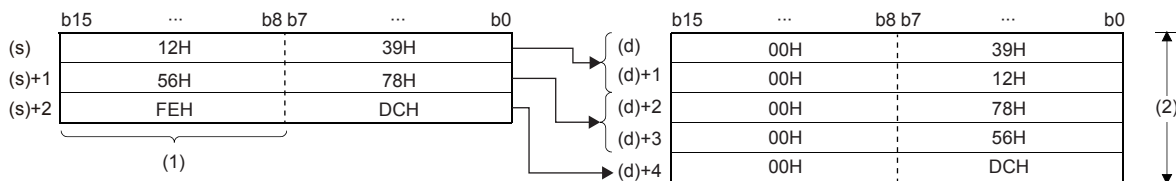


- (1): Upper byte  
 (2): Lower byte  
 (3): Upper byte data  
 (4): Lower byte data

\*1 Values after the decimal point are rounded up.

# Ex.

For example, when (n) is 5, data starting from (s) to the lower 8 bits of (s)+2 is stored into (d) through (d)+4.



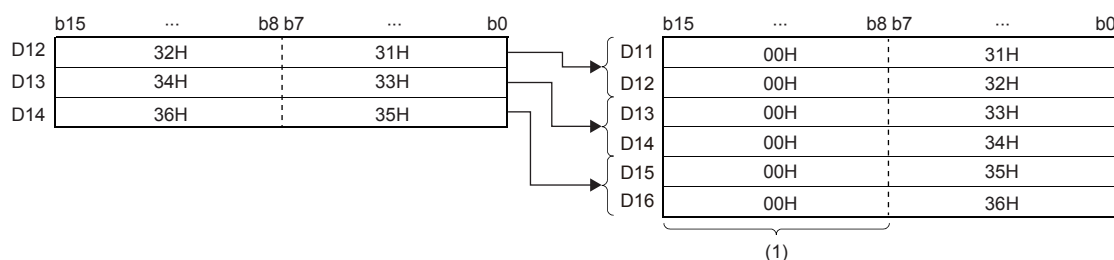
(1): The data FEH is ignored when (n) is 5.

(2): When (n) is 5

- Setting the number of bytes by (n) automatically determines the 16-bit binary data range specified by (s) and the device range specified by (d) for storing the separated byte data.
- If (n) is 0, no processing is performed.
- In the upper 8 bits of the devices specified by (d) to hold byte data, 00H is automatically stored.

# Ex.

To store data in D12 to D14 into the lower 8 bits of D11 to D16



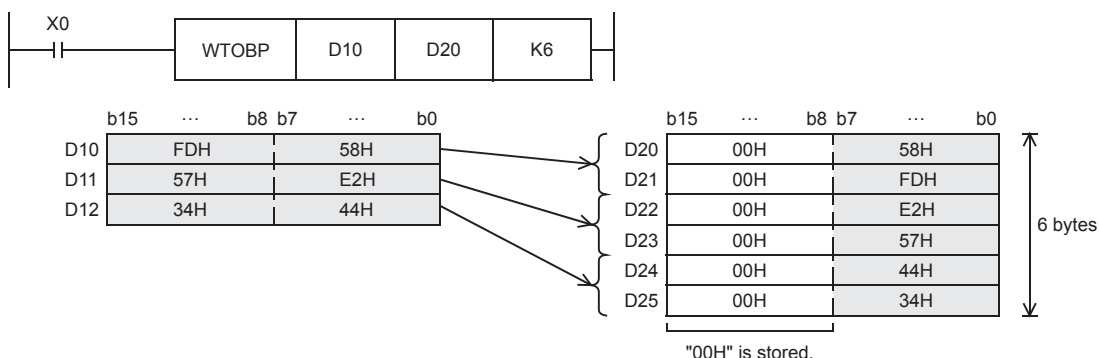
(1): 00H is automatically stored.

- Even if the device range of the data to be separated and the device range for storing the separated data overlap, the processing is performed normally.

Device range where the data to be separated is stored	Device range for storing the separated data
(s) to (s)+( $\frac{n}{2}$ - 1)	(d)+0 to (d)+(n)-1

## Program example

In the program shown below, the data stored in D10 to D12 is separated in byte units, and stored in D20 to D25 when X0 is set to ON.



## Operation error

Error code (SD0/SD8067)	Description
2820H	The range of no. of bytes specified in (n) from the device number specified in (s) onwards exceed the corresponding device range.
	The range of (n) points of devices from the device number specified in (d) onwards exceed the corresponding device range.