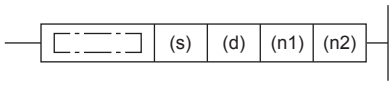
# Shifting n-word data to the right by n word(s)

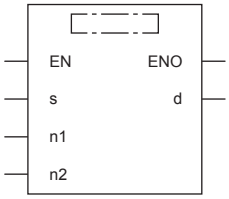
## WSFR(P)

FX5S FX5UJ FX5U FX5UC

This instruction shifts (n1) words of data to the right by (n2) word(s) from the device specified by (d).

| Ladder diagram | Structured text |
|---|---|
|  | ENO:=WSFR(EN,s,n1,n2,d);<br>ENO:=WSFRP(EN,s,n1,n2,d); |

**FBD/LD**




### Setting data

#### ■Descriptions, ranges, and data types

| Operand | Description | Range | Data type | Data type (label) |
|---|---|---|---|---|
| (s) | Head device number stored to the shift data after the shift | — | Word | ANY16 |
| (d) | Head device number to be shifted | — | Word | ANY16 |
| (n1)*1 | Data length of shift data | 0 to 65535 | 16-bit unsigned binary | ANY16_U |
| (n2)*1 | Number of shifts | 0 to 65535 | 16-bit unsigned binary | ANY16_U |
| EN | Execution condition | — | Bit | BOOL |
| ENO | Execution result | — | Bit | BOOL |

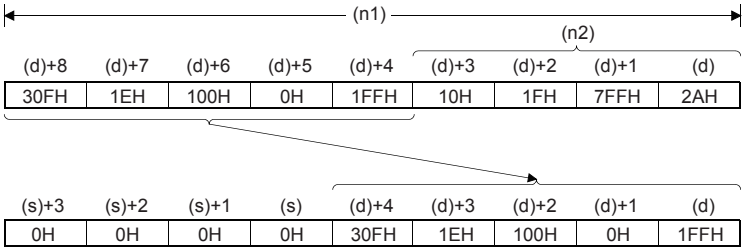
*1 Set so that n2≤n1.

#### ■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) | ○ | ○ | ○ | ○ | — | — | ○ | — | — | — | — |
| (n1) | ○ | ○ | ○ | ○ | — | — | ○ | ○ | — | — | — |
| (n2) | ○ | ○ | ○ | ○ | — | — | ○ | ○ | — | — | — |

## Processing details

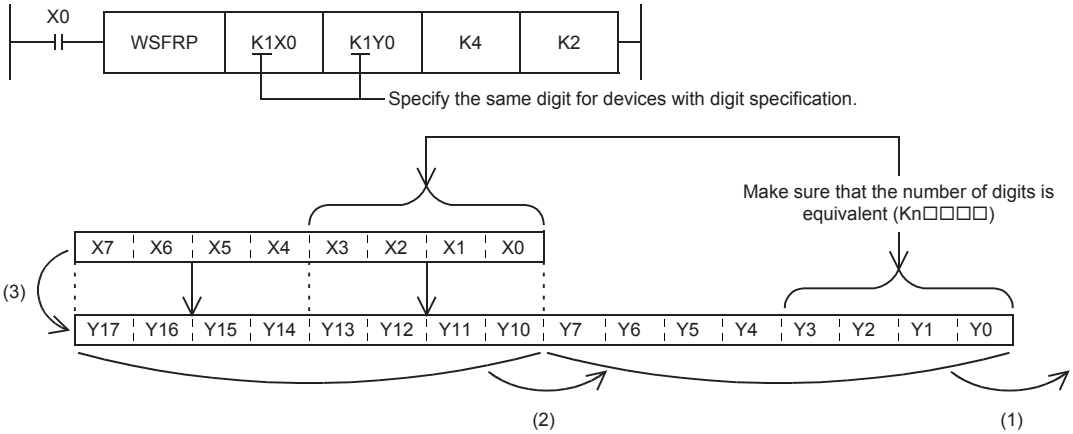
- This instruction shifts (n1) words of data to the right by (n2) word(s) from the device specified by (d). After the shift, (n2) points from (s) are set into (n2) points from (d)+(n1-n2).
- This instruction sets the specified value for (n2) points of devices from (d) + (n1-n2) after the shift when K is specified for (s).




- When the value specified for (n1) or (n2) is 0, the processing is not performed.

## Program example

- Shifting devices with digit specification




## Operation error

| Error code (SD0/SD8067) | Description |
|---|---|
| 2820H | The (n2) points of data starting from the device specified by (s) exceed in the corresponding device. |
| | The (n1) points of data starting from the device specified by (d) exceed in the corresponding device. |
| 2821H | The transfer source data (s) overlaps with shift device (d). |
| 3405H | A constant other than K0 or K1 is specified when the constant (s) is specified. |
| | The values specified in (n1) and (n2) are such that (n1)<(n2). |