

8.21 Drum Sequence

16-bit binary data absolute method

ABSD

FX5S FX5UJ FX5U FX5UC

This instruction creates many output patterns corresponding to the current value (16-bit binary data) of a counter.

Ladder diagram	Structured text
	ENO:=ABSD(EN,s1,s2,n,d);

FBD/LD

Setting data

■ Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	Head device number storing the data table (with rising and falling point data)	—	16-bit signed binary	ANY16
(s2)	Counter number for monitoring the current value compared with the data table	—	16-bit signed binary	ANY16
(d)	Head bit device number to be output	—	Bit	ANY_BOOL
(n)	Number of lines in the table and the number of output bit devices	1 to 64	16-bit unsigned binary	ANY16_U
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

■ Applicable devices

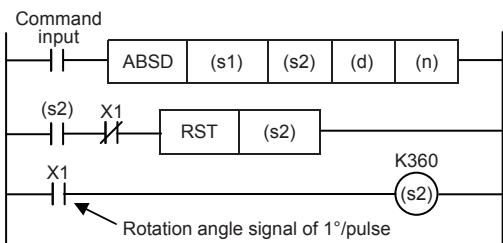
Operand	Bit	Word			Double word		Indirect specification	Constant			Others
		X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC		K, H	E	\$	
(s1)	○	○	○	○	—	—	○	—	—	—	—
(s2)	—	○ ^{*1}	—	—	—	—	○	—	—	—	—
(d)	○	○ ^{*2}	—	—	—	—	—	—	—	—	—
(n)	○	○	○	○	—	—	○	○	—	—	—

*1 Only C can be used.

*2 T, ST, and C cannot be used.

Processing details

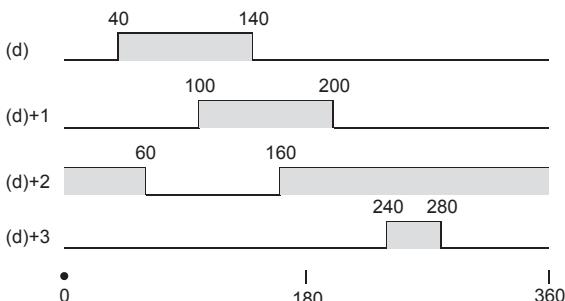
- In this example, outputs are controlled to on or off by one table rotation (0 to 360° using the rotation angle signal of 1°/pulse).
- The current value (s2) of the counter is compared with the data table with "n" lines starting from (s1) (which occupies "n" lines × 2 devices), and consecutive "n" outputs starting from (d) are controlled to on or off during one rotation.



- Write the following data to (s1) to (s1)+2(n)-1 in advance by a transfer instruction: For example, store 16-bit rising point data in even-numbered devices and 16-bit falling point data in odd-numbered devices.

Rising point		Falling point		Target output
—	Data value (example)	—	Data value (example)	
(s1)	40	(s1)+1	140	(d)
(s1)+2	100	(s1)+3	200	(d)+1
(s1)+4	160	(s1)+5	60	(d)+2
(s1)+6	240	(s1)+7	280	(d)+3
:	—	:	—	:
(s1)+2(n)-2	—	(s1)+2(n)-1	—	(d)+n-1

- The following figure shows the output patterns for device points (n) starting from (d) when the command input is set to on. Each rising point/falling point can be changed by overwriting the data in (s1) to (s1)+2(n)-1.



Precautions

- When specifying the nibble of a bit device to (s1), specify a multiple of 16 (0, 16, 32, 64 ...) as a device number and always specify K4 for the number of digits.
- The value of (n) determines the number of target outputs ($1 \leq (n) \leq 64$).
- Even if the command input is set to OFF, the ON/OFF status of outputs does not change.

Operation error

Error code (SD0/SD8067)	Description
2820H	The number of device points specified by (s1) or (d) is insufficient.
3405H	The value specified by (n) is outside the following range. 1 to 64