

# 32-bit binary data absolute method

## DABSD

**FX5S    FX5UJ    FX5U    FX5UC**

This instruction creates many output patterns corresponding to the current value (32-bit binary data) of a counter.

Ladder diagram	Structured text
	ENO:=DABSD(EN,s1,s2,n,d);
<b>FBD/LD</b>	

### 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)	—	32-bit signed binary	ANY32
(s2)	Counter number for monitoring the current value compared with the data table	—	32-bit signed binary	ANY32
(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

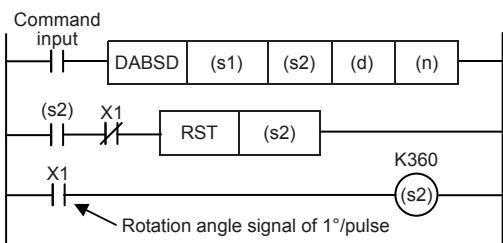
Operand	Bit	Word			Double word		Indirect specification	Constant			Others
		X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC		K, H	E	\$	
(s1)	○	○	○	○	○	○	○	—	—	—	—
(s2)	—	○*1	—	—	○	—	○	—	—	—	—
(d)	○	○*2	—	—	—	—	—	—	—	—	—
(n)	○	○	○	○	—	—	○	○	—	—	—

\*1 Only C (32 bits) can be used.

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

## Processing details

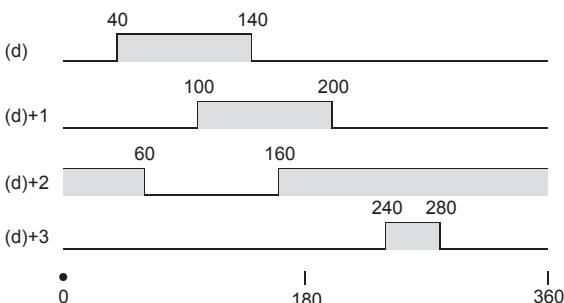
- In this example, outputs are controlled to on or off by one table rotation (0 to 360° using the rotation angle signal of 1° pulse).
- The current value (s2) of the counter is compared with the data table with "n" lines starting from (s1) (which occupies "n" lines × 4 devices), and consecutive "n" outputs starting from (d) are controlled to on or off during one rotation.



- Write the following data to (s1), (s1)+1 to (s1)+4(n)-2, and (s1)+4(n)-1 in advance by a transfer instruction: For example, store 32-bit rising point data in even-numbered devices and 32-bit falling point data in odd-numbered devices.

Rising point		Falling point		Target output
—	Data value (example)	—	Data value (example)	
(s1)+1, (s1)	40	(s1)+3, (s1)+2	140	(d)
(s1)+5, (s1)+4	100	(s1)+7, (s1)+6	200	(d)+1
(s1)+9, (s1)+8	160	(s1)+11, (s1)+10	60	(d)+2
(s1)+13, (s1)+12	240	(s1)+15, (s1)+14	280	(d)+3
:	—	:	—	:
(s1)+4(n)-3, (s1)+4(n)-4		(s1)+4(n)-1, (s1)+4(n)-2		(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

- The DABSD instruction can specify a high-speed counter. When the high-speed counter is specified, the output pattern contains response delay caused by the scan cycle with regard to the current value of a counter.
- 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 K8 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