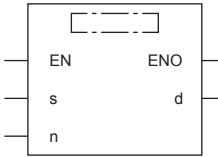# Bit judgment of 32-bit data

DBON(P)

` FX5S ` ` FX5UJ ` ` FX5U ` ` FX5UC `

These instructions check whether (n) bit(s) of binary 32-bit data of the device specified by (s) are on or off, and output the result to the device specified by (d).

Ladder diagram	Structured text
⎯⎯▯:⎯▯⎯ (s) (d) (n)	ENO:=DBON(EN,s,n,d); ENO:=DBONP(EN,s,n,d);

FBD/LD
▯:⎯▯ EN　　ENO s　　　d n

Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s)	Word device number storing the data	—	32-bit signed binary	ANY32
(d)	Bit device number to be driven	—	Bit	ANY_BOOL
(n)	Bit position to be checked	0 to 31	16-bit unsigned binary	ANY16_U
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL
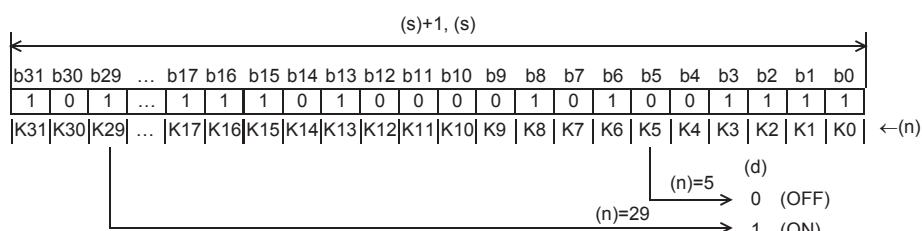
■Applicable devices

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	LZ		K, H	E	$	
(s)	○	○	○	○	○	○	○	○	—	—	—
(d)	○	○*1	○	—	—	—	—	—	—	—	—
(n)	○	○	○	○	—	—	○	○	—	—	—

*1　T, ST, and C cannot be used.

Processing details

- These instructions check whether (n) bit(s) of binary 32-bit data of the device specified by (s) are on or off, and output the result to the device specified by (d).
- When the result above is on, these instructions turn (d) on. When the result above is off, these instructions turn (d) off.
- When a constant (K) is specified in the device specified by (s), it is automatically converted into binary.

	(s)+1, (s)	
b31 b30 b29 … b17 b16	b15 b14 b13 b12 b11 b10 b9 b8 b7 b6 b5 b4 b3 b2 b1 b0
1　0　1　…　1　1	1　0　1　0　0　0　0　1　0　1　0　0　1　1　1　1
K31 K30 K29 … K17 K16	K15 K14 K13 K12 K11 K10 K9 K8 K7 K6 K5 K4 K3 K2 K1 K0	←(n)

(n)=5 → (d) 0 (OFF)

(n)=29 → 1 (ON)

Operation error

Error code (SD0/SD8067)	Description
3405H	The value specified by (n) is outside the following range. 0 to 31