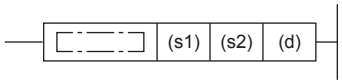
Single-precision real number comparison

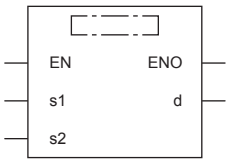
DECMP(P)

FX5S FX5UJ FX5U FX5UC

These instructions compare two data values (single-precision real number), and output the result (larger, same or smaller) to three consecutive bit devices.

Ladder diagram	Structured text
	ENO:=DECMP(EN,s1,s2,d); ENO:=DECMPP(EN,s1,s2,d);

FBD/LD



Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	Comparison data or the number of the device where the comparison data is stored	0, $2^{-126} \leq \lvert(s1)\rvert < 2^{128}$	Single-precision real number	ANYREAL_32
(s2)	Comparison data or the number of the device where the comparison data is stored	0, $2^{-126} \leq \lvert(s2)\rvert < 2^{128}$	Single-precision real number	ANYREAL_32
(d)	Start bit device number to which comparison result is output (Three devices are occupied).	—	Bit	ANYBIT_ARRAY (Number of elements: 3)
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

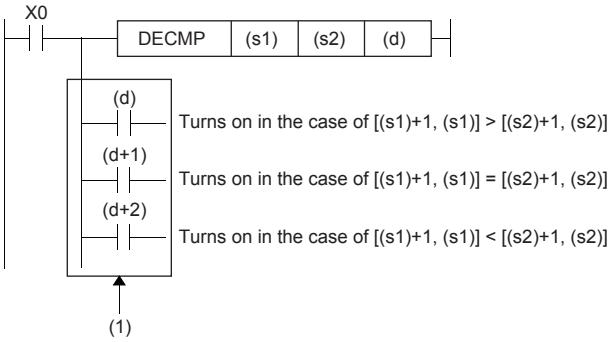
■Applicable devices

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	$	
(s1)	—	○	○	—	○	—	○	○	○	—	—
(s2)	—	○	○	—	○	—	○	○	○	—	—
(d)	○	○*1	—	—	—	—	—	—	—	—	—

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

Processing details

- These instructions compare the comparison value (s1) with the comparison source (s2) as floating point data, and one of the bits among (d), (d)+1, and (d)+2 turns on according to the result (smaller, same or larger).



(1): Even if the command input X0 turns off before the DECMP instruction is fully executed, (d) to (d)+2 hold the status.

- When the constant (K or H) is specified the device specified by (s1) and (s2), these instructions convert the binary value into single-precision real number automatically.

Precautions

- Three devices ((d), (d)+1, and (d)+2) specified by (d) are occupied. Note that these devices are not used for any other purpose.

Operation error

Error code (SD0/SD8067)	Description
2820H	The device range specified by (d) exceeds the corresponding device range.
3402H	The specified device value is denormalized number, NaN (not a number), or ±∞.